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WEATHER BUREAU - - - F. W. Reichelderfer, *Chief*

MONTHLY WEATHER REVIEW

MAY 1947

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MONTHLY WEATHER REVIEW

Acting Editor, Robert N. Culnan

VOL. 75, No. 5
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MAY 1947

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METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR MAY 1947

AEROLOGICAL OBSERVATIONS

[For description of change in Table 1 and charts, see REVIEW, January 1946, p. 6]

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during May 1947*

STATIONS AND MEAN SURFACE PRESSURES

Standard pressure surface (mb.)	Albany, N. Y. (1,002.9 mb.)				Albuquerque, N. Mex. (834.5 mb.)				Apalachicola, Fla. (1,016.1 mb.)				Atlanta, Ga. (981.5 mb.)				Auburn, Calif. (954.0 mb.)				Big Spring, Tex. (923.7 mb.)				Bismarck, N. Dak. (953.4 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	26	86	11.2	79	31	1,620	21.7	24	31	5	22.8	83	31	300	19.2	70	31	501	20.8	43	31	774	22.2	52	31	506	12.3	49
1,000	26	110	(*)	----	31	16	(*)	----	31	144	22.2	81	31	138	(*)	----	31	88	(*)	----	31	75	(*)	----	31	101	(*)	----
950	26	540	9.7	73	31	483	(*)	----	31	595	19.8	76	31	584	19.1	63	31	542	21.7	41	31	526	(*)	----	31	537	(*)	----
900	26	986	8.0	74	31	962	(*)	----	31	1,054	17.5	67	31	1,045	16.3	62	31	1,003	18.6	40	31	1,000	22.5	47	31	986	9.9	47
850	26	1,455	5.4	76	31	1,460	(*)	----	31	1,541	14.9	63	31	1,529	13.0	64	31	1,490	15.1	39	31	1,494	19.4	47	31	1,458	6.5	52
800	26	1,949	2.5	72	31	1,984	19.6	25	31	2,052	11.9	59	31	2,036	9.8	62	31	2,000	11.3	40	31	2,013	16.9	40	31	1,952	2.9	58
750	26	2,478	0.0	63	31	2,537	15.3	29	31	2,592	8.7	58	31	2,575	7.1	52	31	2,538	7.4	42	31	2,561	13.5	35	31	2,474	−0.6	61
700	26	3,018	−3.0	64	31	3,114	10.3	34	31	3,157	5.7	51	31	3,134	4.1	46	31	3,099	3.4	39	31	3,136	9.0	38	31	3,019	−3.9	60
650	25	3,606	−5.7	62	31	3,725	4.9	42	30	3,765	2.6	42	31	3,736	.8	42	31	3,696	−.9	40	31	3,741	4.5	37	31	3,607	−7.2	58
600	25	4,224	−8.7	54	31	4,371	−.7	51	29	4,402	−1.3	40	31	4,373	−2.9	42	31	4,329	−5.0	32	31	4,391	−.2	38	31	4,222	−10.7	55
550	25	4,896	−12.5	----	30	5,057	−6.4	59	29	5,089	−5.6	----	31	5,058	−7.0	39	31	5,006	−9.4	----	31	5,077	−5.2	36	31	4,888	−14.5	51
500	24	5,613	−17.1	----	30	5,796	−12.0	66	29	5,830	−10.3	----	31	5,794	−11.7	40	31	5,737	−14.6	----	31	5,822	−10.1	32	31	5,603	−18.7	51
450	24	6,400	−22.1	----	30	6,595	−18.0	60	29	6,639	−15.8	----	31	6,600	−16.9	44	31	6,529	−20.6	----	31	6,633	−15.8	----	31	6,390	−23.9	----
400	24	7,252	−28.1	----	30	7,464	−23.9	----	28	7,508	−21.9	----	31	7,468	−22.9	----	31	7,387	−27.1	----	31	7,504	−22.1	----	30	7,233	−29.6	----
350	23	8,191	−34.7	----	29	8,422	−31.2	----	28	8,477	−29.0	----	31	8,432	−30.5	----	30	8,330	−34.9	----	30	8,471	−29.6	----	30	8,173	−36.4	----
300	22	9,253	−42.1	----	29	9,496	−39.3	----	28	9,560	−37.3	----	30	9,510	−38.6	----	30	9,387	−43.2	----	28	9,519	−37.4	----	27	9,227	−43.2	----
250	22	10,464	−50.0	----	28	10,716	−48.2	----	27	10,787	−47.6	----	30	10,737	−48.0	----	29	10,595	−51.9	----	25	10,786	−46.6	----	23	10,427	−49.9	----
200	20	11,902	−56.2	----	25	12,150	−56.5	----	25	12,223	−58.5	----	28	12,174	−58.0	----	29	12,012	−59.8	----	23	12,241	−55.1	----	19	11,892	−54.1	----
175	19	12,731	−58.4	----	18	12,995	−59.5	----	22	13,064	−63.1	----	26	13,004	−62.0	----	26	12,852	−60.8	----	18	13,092	−59.1	----	12	12,739	−51.9	----
150	16	13,713	−58.2	----	12	13,940	−58.5	----	15	13,975	−66.6	----	16	13,926	−63.3	----	20	13,797	−60.2	----	5	14,023	−62.5	----	6	13,746	−50.5	----
125	13	14,856	−57.1	----	----	----	----	----	9	15,085	−67.4	----	9	15,004	−63.6	----	14	14,918	−60.7	----	----	----	----	----	----	----	----	----
100	9	16,244	−58.4	----	----	----	----	----	----	----	----	----	----	----	----	----	5	16,307	−60.7	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	Boise, Idaho (912.1 mb.)				Brownsville, Tex. (1,010.7 mb.)				Buffalo, N. Y. (987.1 mb.)				Caribou, Maine (990.0 mb.)				Charleston, S. C. (1,014.8 mb.)				Ciudad Victoria, Mexico (971.2 mb.)				Columbia, Mo. (985.7 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	31	868	19.1	43	31	6	25.2	85	31	221	9.6	78	31	191	6.9	76	29	14	19.4	88	31	335	28.4	61	31	239	16.1	65
1,000	31	65	(*)	----	31	100	24.6	85	31	112	(*)	----	31	107	(*)	----	29	140	20.0	80	31	72	(*)	----	31	115	(*)	----
950	31	519	(*)	----	31	553	22.3	77	31	546	9.8	75	31	531	6.3	68	29	587	19.1	63	31	530	26.7	62	31	553	15.4	62
900	31	982	20.0	37	31	1,020	21.0	59	31	988	8.1	73	31	971	4.4	70	29	1,047	16.4	61	31	1,006	22.6	67	31	1,009	12.7	63
850	31	1,472	16.5	36	31	1,513	18.9	47	31	1,457	5.5	73	31	1,436	3.1	73	29	1,532	13.3	63	31	1,502	19.0	71	31	1,486	9.8	65
800	31	1,984	12.3	41	31	2,032	16.2	42	31	1,951	3.3	69	31	1,925	0.8	71	29	2,039	10.2	61	31	2,020	15.4	75	31	1,988	7.1	60
750	31	2,522	8.0	46	31	2,581	13.5	35	31	2,481	0.8	66	31	2,448	−1.1	64	29	2,580	7.2	55	31	2,568	12.3	68	30	2,526	4.5	53
700	31	3,085	3.5	51	31	3,155	9.9	34	31	3,024	−2.2	60	31	2,991	−3.6	58	29	3,139	3.9	51	30	3,143	9.1	59	30	3,079	1.9	47
650	31	3,684	−1.0	53	31	3,767	5.7	35	30	3,616	−5.2	56	31	3,579	−6.2	53	29	3,741	0.7	46	28	3,752	4.8	54	30	3,676	−1.4	49
600	31	4,316	−5.4	56	31	4,415	1.2	35	30	4,237	−8.8	52	30	4,193	−9.4	51	29	4,377	−2.7	38	27	4,400	0.2	53	30	4,308	−5.2	52
550	31	4,996	−9.9	56	30	5,108	−3.6	36	30	4,912	−12.6	47	30	4,862	−13.3	49	29	5,002	−6.9	----	27	5,089	−4.6	52	30	4,987	−9.3	49
500	31	5,722	−15.0	56	29	5,855	−8.3	----	29	5,630	−17.5	50	30	5,579	−17.8	47	29	5,799	−11.5	----	27	5,836	−9.4	50	30	5,717	−14.0	47
450	31	6,514	−20.8	50	29	6,672	−13.8	----	28	6,422	−22.8	----	30	6,366	−22.9	----	29	6,607	−16.7	----	27	6,649	−14.2	51	30	6,512	−19.4	44
400	30	7,370	−27.5	56	29	7,549	−20.3	----	28	7,267	−28.8	----	30	7,214	−28.4	----	28	7,481	−22.7	----	24	7,525	−20.1	----	30	7,374	−25.7	----
350	30	8,315	−35.1	61	29	8,524	−27.1	----	27	8,202	−36.0	----	30	8,158	−35.2	----	28	8,446	−29.9	----	24	8,503	−27.0	----	30	8,328	−32.8	----
300	30	9,370	−43.6	----	29	9,617	−35.1	----	27	9,257	−42.6	----	29	9,216	−42.7	----	28	9,526	−38.2	----	24	9,595	−35.5	----	30	9,395	−40.7	----
250	29	10,573	−52.2	----	29	10,862	−44.5	----	25	10,470	−48.9	----	28	10,426	−49.9	----	27	10,765	−47.8	----	24	10,839	−45.3	----	28	10,606	−49.4	----
200	28	11,992	−59.2	----	25	12,320	−54.6	----	24	11,909	−54.6	----	26	11,875	−54.6	----	25	12,205	−58.2	----	20	12,305	−55.7	----	22	12,035	−56.9	----
175	20	12,832	−60.1	----	21	13,157	−59.3	----	21	12,753	−55.5	----	18	12,718	−55.6	----	21	13,040	−63.3	----	10	13,187	−62.4	----	13	12,870	−57.3	----
150	10	13,773	−58.8	----	13	14,118	−64.5	----	17	13,719	−54.5	----	11	13,646	−52.2	----	15	13,982	−65.1	----	----	----	----	----	5	13,789	−54.7	----
125	----	----	----	----	----	----	----	----	13	14,871	−54.8	----	----	----	----	----	6	15,085	−65.7	----	----	----	----	----	----	----	----	----
100	----	----	----	----	----	----	----	----	11	16,288	−56.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
80	----	----	----	----	----	----	----	----	7	17,652	−55.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

See footnotes at end of table.

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centrigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during May 1947*—Continued

Standard pressure surface (mb.)	Dodge City, Kans. (923.5 mb.)				El Paso, Tex. (878.4 mb.)				Ely, Nev. (807.5 mb.)				Fort Worth, Tex. (987.8 mb.)				Glasgow, Mont. (937.6 mb.)				Grand Junction, Colo. (848.9 mb.)				Great Falls, Mont. (885.7 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	30	787	14.4	74	31	1,195	24.1	25	30	1,908	14.0	46	31	211	22.5	64	31	648	13.8	41	31	1,474	19.6	31	31	1,128	14.0	37
1,000	30	105	(*)	----	31	40	(*)	----	30	57	(*)	----	31	103	(*)	----	31	98	(*)	----	31	33	(*)	----	31	87	(*)	----
950	30	549	(*)	----	31	507	(*)	----	30	510	(*)	----	31	553	21.3	62	31	537	(*)	----	31	496	(*)	----	31	533	(*)	----
900	30	1,005	14.5	65	31	985	(*)	----	30	981	(*)	----	31	1,017	18.2	60	31	992	11.9	41	31	969	(*)	----	31	995	(*)	----
850	30	1,487	12.2	61	31	1,482	23.3	23	30	1,469	(*)	----	31	1,505	15.7	55	31	1,467	8.1	45	31	1,462	(*)	----	31	1,473	11.8	38
800	30	1,994	10.4	60	31	2,006	19.1	24	30	1,987	15.9	40	31	2,018	13.7	47	31	1,964	4.4	52	31	1,982	16.8	32	31	1,977	7.7	44
750	30	2,535	7.8	57	31	2,558	14.2	28	30	2,531	12.1	39	31	2,564	10.9	39	31	2,488	0.4	59	31	2,527	12.4	36	31	2,505	3.3	53
700	30	3,096	4.8	52	31	3,132	9.1	33	30	3,104	7.3	44	31	3,131	6.9	40	31	3,035	−3.2	58	31	3,100	7.5	41	31	3,060	−0.9	61
650	30	3,697	1.2	49	31	3,742	3.8	39	30	3,707	2.0	54	31	3,739	2.5	40	31	3,621	−6.4	49	31	3,705	2.2	49	31	3,649	−5.0	66
600	30	4,336	−3.3	51	31	4,383	−1.5	44	30	4,349	−3.3	61	31	4,378	−2.0	39	31	4,240	−10.3	52	31	4,346	−3.4	59	30	4,273	−9.0	64
550	30	5,020	−8.2	53	31	5,069	−6.5	43	30	5,027	−8.5	62	31	5,066	−6.5	35	31	4,906	−14.3	49	31	5,026	−9.0	65	30	4,942	−13.3	61
500	30	5,752	−13.3	51	31	5,806	−12.3	41	30	5,763	−13.9	55	30	5,801	−11.8	33	31	5,621	−19.1	54	31	5,757	−14.7	60	30	5,661	−18.0	58
450	30	6,549	−18.6	45	31	6,609	−18.4	----	30	6,558	−19.4	44	30	6,609	−17.3	----	31	6,401	−24.6	----	31	6,554	−20.3	53	30	6,443	−23.6	----
400	29	7,415	−24.9	----	31	7,471	−25.0	----	30	7,419	−26.1	----	30	7,474	−23.5	----	31	7,245	−30.7	----	30	7,412	−26.7	----	30	7,290	−30.0	----
350	27	8,370	−32.5	----	31	8,427	−32.4	----	30	8,370	−33.4	----	30	8,468	−31.1	----	30	8,178	−37.3	----	29	8,363	−34.0	----	29	8,230	−37.1	----
300	27	9,437	−41.0	----	31	9,495	−40.5	----	29	9,431	−41.7	----	30	9,508	−39.6	----	27	9,218	−45.1	----	26	9,422	−42.2	----	29	9,276	−45.3	----
250	27	10,650	−50.6	----	31	10,713	−49.5	----	28	10,635	−50.7	----	30	10,732	−48.4	----	23	10,407	−52.9	----	25	10,631	−50.5	----	28	10,466	−53.8	----
200	25	12,080	−59.1	----	28	12,145	−58.1	----	25	12,069	−58.6	----	26	12,165	−58.0	----	15	11,847	−55.7	----	22	12,069	−58.2	----	25	11,877	−59.5	----
175	22	12,909	−62.0	----	26	12,973	−60.9	----	22	12,909	−59.4	----	22	13,002	−62.4	----	14	12,707	−54.3	----	18	12,899	−60.0	----	16	12,706	−57.5	----
150	15	13,845	−61.6	----	16	13,909	−61.4	----	15	13,872	−60.4	----	11	13,944	−64.5	----	10	13,677	−53.7	----	9	13,893	−59.3	----	9	13,685	−55.1	----
125	10	14,958	−61.9	----	----	----	----	----	10	15,014	−62.1	----	----	----	----	----	8	14,843	−54.1	----	----	----	----	----	----	----	----	----
100	8	16,343	−62.8	----	----	----	----	----	5	16,396	−63.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	Greensboro, N. C. (983.6 mb.)				Hatteras, N. C. (1,016.1 mb.)				Havana, Cuba (1,009.5 mb.)				Honolulu, T. H. (1,016.6 mb.)				Huntington, W. Va. (994.5 mb.)				International Falls, Minn. (971.5 mb.)				Joliet, Ill. (992.3 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	31	273	17.5	71	31	3	19.0	85	26	50	24.2	86	31	3	25.6	62	30	172	14.3	79	31	360	7.2	64	31	178	10.6	84
1,000	31	130	(*)	----	31	140	18.5	80	26	134	23.8	85	31	148	23.8	63	30	124	(*)	----	31	123	(*)	----	31	113	(*)	----
950	31	574	17.6	62	31	585	17.0	69	26	584	21.3	81	31	597	19.9	69	30	563	15.2	64	31	543	7.1	60	31	545	10.8	75
900	31	1,031	14.9	61	31	1,040	14.7	67	26	1,030	18.6	77	31	1,058	16.4	73	30	1,016	11.8	66	31	986	4.4	62	31	992	8.7	73
850	31	1,513	11.5	62	31	1,521	12.0	61	26	1,540	15.3	82	31	1,543	13.5	77	30	1,492	8.6	66	31	1,449	1.3	66	31	1,463	6.1	75
800	31	2,018	8.1	62	31	2,027	9.3	58	26	2,051	12.2	78	31	2,053	12.0	61	30	1,992	5.9	62	31	1,934	−1.9	69	31	1,957	3.3	76
750	31	2,553	4.8	62	31	2,565	6.1	56	26	2,593	9.5	63	31	2,597	10.2	40	30	2,524	2.8	56	31	2,450	−4.6	58	31	2,481	1.1	67
700	31	3,107	1.4	58	31	3,122	3.4	44	26	3,161	6.6	49	31	3,163	7.8	22	29	3,073	−0.5	56	31	2,986	−7.3	56	31	3,032	−1.5	61
650	31	3,703	−1.8	49	31	3,724	0.1	45	26	3,769	3.4	40	31	3,775	5.3	----	29	3,666	−3.8	53	31	3,567	−10.4	57	31	3,625	−4.5	58
600	31	4,334	−4.9	40	30	4,356	−3.3	----	22	4,411	−0.2	----	31	4,420	2.0	----	29	4,291	−7.1	46	31	4,172	−14.0	55	31	4,245	−8.1	51
550	31	5,014	−8.7	----	29	5,044	−6.9	----	22	5,103	−4.1	----	31	5,118	−2.0	----	29	4,965	−11.0	----	31	4,829	−18.2	50	31	4,917	−12.2	47
500	30	5,745	−13.7	----	29	5,780	−11.3	----	21	5,848	−9.3	----	31	5,867	−7.0	----	28	5,688	−16.0	----	30	5,536	−22.4	----	31	5,638	−16.6	42
450	29	6,542	−19.0	----	28	6,586	−16.8	----	20	6,656	−15.0	----	31	6,690	−12.7	----	28	6,479	−21.1	----	28	6,298	−27.6	----	31	6,426	−22.1	----
400	29	7,404	−25.2	----	28	7,454	−22.8	----	19	7,534	−21.1	----	31	7,569	−18.9	----	28	7,334	−27.3	----	28	7,131	−33.4	----	31	7,279	−28.2	----
350	29	8,360	−32.3	----	25	8,424	−29.7	----	18	8,504	−28.2	----	31	8,548	−26.3	----	28	8,282	−34.2	----	28	8,055	−39.7	----	31	8,222	−35.2	----
300	29	9,429	−40.3	----	25	9,504	−37.6	----	17	9,592	−36.6	----	31	9,642	−34.9	----	28	9,344	−41.8	----	25	9,100	−46.0	----	30	9,280	−42.5	----
250	29	10,649	−49.0	----	25	10,737	−46.7	----	15	10,828	−46.4	----	31	10,890	−43.8	----	26	10,561	−50.0	----	22	10,314	−51.3	----	25	10,501	−49.9	----
200	29	12,084	−57.8	----	22	12,172	−56.6	----	13	12,268	−57.3	----	30	12,356	−53.6	----	23	11,981	−57.2	----	14	11,743	−51.0	----	18	11,972	−55.2	----
175	26	12,922	−61.1	----	17	12,992	−60.7	----	11	13,098	−62.9	----	27	13,199	−58.2	----	20	12,808	−58.7	----	11	12,580	−49.8	----	13	12,834	−57.3	----
150	17	13,882	−62.8	----	10	13,926	−61.3	----	8	14,027	−68.0	----	22	14,155	−61.7	----	16	13,779	−59.3	----	9	13,563	−50.4	----	8	13,811	−57.8	----
125	11	14,992	−62.1	----	5	15,128	−63.8	----	----	----	----	----	8	15,274	−65.0	----	13	14,902	−60.1	----	7	14,732	−51.3	----	----	----	----	----
100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	7	16,284	−60.3	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	Lake Charles, La. (1,013.9 mb.)				Lander, Wyo. (827.8 mb.)				Las Vegas, Nev. (941.1 mb.)				Little Rock, Ark. (1,004.9 mb.)				Mazatlan, Mexico (1,008.2 mb.)				Medford, Oreg. (966.5 mb.)				Merida, Mexico (1,008.4 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	31	5	22.2	84	31	1,696	12.0	55	31	574	28.8	19	30	79	20.1	73	31	14	24.3	77	31	401	21.5	42	31	27	28.9	64
1,000	31	125	21.6	81	31	75	(*)	----	31	28	(*)	----	30	120	20.2	69	31	86	23.5	73	31	103	(*)	----	31	102	28.0	65
950	31	575	19.3	75	31	521	(*)	----	31	491	(*)	----	30	567	19.5	64	31	541	23.1	48	31	554	20.4	41	31	557	25.2	65
900	31	1,033	17.4	65	31	987	(*)	----	31	970	26.6	----	30	1,028	16.5	65	31	1,005	23.0	37	31	1,012	16.5	44	31	1,030	22.3	66
850	31	1,521	15.9	52	31	1,470	(*)	----	31	1,468	22.1	21	30	1,513	14.2	59	31	1,501	20.5	33	31	1,495	12.5	50	31	1,525	18.8	70
800	31	2,034	13.1	49	31	1,982	11.7	49	31	1,989	17.2	24	30	2,022	12.0	52	31	2,021	16.9	38	31	1,999	8.5	56	31	2,017	15.1	73
750	31	2,577	9.9	46	31	2,521	7.7	53	31	2,537	12.1	30	30	2,563	8.7	57	31	2,574	13.1	37	31	2,533	4.9	57	31	2,591	11.3	73
700	31	3,143	6.4	43	31	3,083	3.2	60	31	3,106	6.8	36	30	3,128	5.6	57	31	3,144	9.0	41	31	3,088	1.3	57	31	3,161	8.4	57
650	30	3,748	2.3	44	31	3,679	−1.5	65	31	3,711	1.5	41	30	3,730	1.8	56	31	3,755	4.6	44	31	3,683	−2.1	47	31	3,775	5.1	48
600	30	4,387	−1.7	42	31	4,312	−6.0	68	31	4,349	−3.3	40	29	4,371	−2.0	47	31	4,401	0.1	43	31	4,312	−5.9	45	31	4,421	1.5	38
550	30	5,070	−6.3	42	31	4,987	−10.8	67	31	5,033	−8.7	42	29	5,057	−6.3	45	31	5,092	−4.8	39	31	4,986	−10.3	41	30	5,116	−2.4	----
500	30	5,813	−11.4	40	31	5,714	−16.0	59	31	5,762	−14.2	----	28	5,800	−10.6	40	31	5,836	−9.4	----	31	5,714	−15.6	----	30	5,866	−6.9	----
450	30	6,616	−16.9	42	30	6,506	−21.7	----	30	6,560	−19.9	----	27	6,611	−16.0	----	31	6,653	−14.3	----	31	6,502	−21.5	----	30	6,690	−12.2	----
400	30	7,487	−23.3	----	30	7,359	−28.0	----	30	7,418	−26.4	----	27	7,481	−22.2	----	31	7,527	−20.6	----	31	7,356	−28.0	----	30	7,570	−18.3	----
350	30	8,450	−30.7	----	30	8,301	−35.6	----	29	8,363	−34.0	----	25	8,447	−29.3	----	31	8,501	−27.7	----	31	8,300	−35.5	----	30	8,552	−25.9	----
300	29	9,525	−38.9	----	30	9,354	−43.9	----	29	9,425	−41.9	----	24	9,527	−37.5	----	31	9,591	−35.6	----	31	9,353	−43.7	----	30	9,648	−34.4	----
250	29	10,750	−48.4	----	28	10,559	−52.6	----	29	10,636	−50.6	----	24	10,761	−46.8	----	30	10,836	−44.8	----	31	10,554	−52.3	----	30	10,897	−44.2	----
200	29	12,185	−58.4	----	27	11,978	−59.5	----	27	12,069	−58.4	----	23	12,214	−55.7	----	20	12,307	−55.0	----	31	11,970	−59.1	----	24	12,357	−55.2	----
175	28	13,019	−62.6	----	23	12,810	−60.6	----	19	12,886	−59.5	----	17	13,067	−59.5	----	11	13,170	−60.4	----	30	12,798	−59.9	----	9	13,209	−60.9	----
150	19	13,967	−64.9	----	16	13,782	−59.9	----	9	13,827	−57.8	----	----	----	----	----	7	14,125	−66.3	----	25	13,768	−59.2	----	----	----	----	----
125	7	15,084	−69.3	----	7	14,934	−59.6	----	5	14,959	−60.6	----	----	----	----	----	----	----	----	----	16	14,901	−58.5	----	----	----	----	----
100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5	16,311	−57.6	----	----	----	----	----

See footnotes at end of table.

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during May 1947*—Continued

Standard pressure surface (mb.)	Miami, Fla. (1,016.6 mb.)				Nantucket, Mass. (1,013.5 mb.)				Nashville, Tenn. (994.1 mb.)				New Orleans, La. (1,015.1 mb.)				North Platte, Nebr. (916.9 mb.)				Oakland, Calif. (1,012.6 mb.)				Ogden, Utah (861.6 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	31	4	24.2	77	31	14	9.9	90	31	180	17.7	73	30	2	23.0	81	31	849	12.3	69	31	6	15.7	70	31	1,355	16.9	47
1,000	31	148	23.6	75	31	126	11.3	84	31	129	(*)	----	30	133	22.6	79	31	109	(*)	----	31	112	14.9	70	31	58	(*)	----
950	31	599	20.9	76	31	561	13.3	64	31	571	17.1	67	30	584	20.9	73	31	550	(*)	----	31	551	15.3	57	31	512	(*)	----
900	31	1,062	18.1	68	31	1,011	11.6	51	31	1,028	13.9	66	29	1,045	18.4	66	31	1,005	12.7	61	31	1,006	16.6	34	31	982	(*)	----
850	31	1,549	15.2	64	31	1,487	9.2	48	31	1,508	11.2	59	29	1,534	16.2	58	31	1,482	10.0	60	31	1,490	14.7	32	31	1,471	17.7	39
800	31	2,061	12.7	56	31	1,987	6.5	46	31	2,012	8.4	54	29	2,048	14.2	51	31	1,984	7.2	64	31	2,000	12.0	27	31	1,985	14.0	40
750	31	2,604	10.1	47	31	2,517	3.7	51	31	2,548	5.6	45	29	2,594	11.0	45	31	2,515	4.4	68	31	2,538	8.7	----	31	2,529	9.4	45
700	31	3,171	7.0	42	31	3,071	0.8	52	31	3,104	2.7	42	29	3,162	7.5	45	31	3,072	1.2	68	31	3,103	5.5	----	31	3,093	4.6	52
650	31	3,782	3.6	43	31	3,665	−2.5	48	31	3,701	−0.9	45	29	3,773	3.9	38	31	3,669	−2.4	64	31	3,704	1.6	----	31	3,694	−0.3	57
600	31	4,423	0.1	35	30	4,301	−5.5	43	31	4,334	−4.5	44	28	4,416	0.2	----	31	4,295	−6.6	61	30	4,342	−2.8	----	31	4,327	−5.1	59
550	31	5,117	−3.9	----	30	4,981	−9.4	46	31	5,016	−8.6	44	28	5,110	−4.0	----	30	4,969	−11.0	58	30	5,025	−7.3	----	31	5,005	−9.9	56
500	31	5,862	−8.6	----	30	5,709	−14.0	44	31	5,748	−13.1	----	27	5,853	−8.8	----	30	5,693	−15.9	58	29	5,760	−12.6	----	31	5,764	−13.1	55
450	31	6,681	−14.0	----	29	6,516	−18.8	45	31	6,547	−18.7	----	27	6,672	−14.1	----	30	6,486	−21.3	----	29	6,558	−18.3	----	31	6,526	−21.0	----
400	31	7,556	−20.1	----	28	7,378	−24.6	----	31	7,410	−24.7	----	23	7,543	−20.5	----	30	7,337	−27.5	----	29	7,424	−24.8	----	31	7,381	−27.5	----
350	31	8,531	−27.2	----	28	8,335	−31.9	----	31	8,368	−31.6	----	21	8,514	−27.7	----	30	8,249	−34.6	----	28	8,378	−32.0	----	30	8,325	−35.0	----
300	29	9,619	−35.3	----	27	9,407	−40.0	----	31	9,441	−39.4	----	17	9,601	−35.8	----	30	9,341	−42.9	----	27	9,450	−40.1	----	30	9,381	−43.2	----
250	28	10,861	−44.9	----	26	10,625	−49.2	----	31	10,663	−48.5	----	15	10,840	−44.9	----	29	10,545	−51.5	----	26	10,679	−48.3	----	30	10,585	−52.0	----
200	25	12,321	−55.3	----	22	12,053	−56.6	----	25	12,078	−57.2	----	14	12,293	−54.1	----	26	11,962	−58.3	----	21	12,141	−55.9	----	27	12,005	−58.6	----
175	22	13,155	−60.7	----	22	12,894	−59.0	----	25	12,917	−59.4	----	6	13,178	−59.3	----	24	12,803	−59.8	----	16	12,998	−57.9	----	22	12,841	−59.4	----
150	10	14,091	−65.8	----	15	13,854	−58.9	----	20	13,857	−60.0	----	----	----	----	----	19	13,768	−58.7	----	11	13,931	−56.8	----	12	13,798	−59.4	----
125	----	----	----	----	9	14,990	−56.9	----	10	14,951	−61.6	----	----	----	----	----	13	14,909	−59.1	----	----	----	----	----	5	14,913	−57.0	----

Standard pressure surface (mb.)	Oklahoma City, Okla. (967.4 mb.)				Omaha, Nebr. (977.9 mb.)				Phoenix, Ariz. (968.0 mb.)				Pittsburgh, Pa. (969.7 mb.)				Portland, Maine (1,011.2 mb.)				Rapid City, S. Dak. (901.8 mb.)				St. Paul, Minn. (986.4 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	29	391	19.0	71	31	308	15.0	64	31	339	29.6	25	31	382	13.7	71	31	20	9.0	85	31	980	10.6	65	20	225	12.6	63
1,000	29	104	(*)	----	31	117	(*)	----	31	47	(*)	----	31	119	(*)	----	31	112	9.8	80	31	105	(*)	----	20	110	(*)	----
950	29	547	19.4	62	31	555	13.9	60	31	512	29.9	23	31	560	13.3	69	31	544	10.4	72	31	545	(*)	----	20	541	11.3	60
900	29	1,011	16.7	61	31	1,007	11.1	61	31	985	26.1	25	31	1,008	11.0	70	31	988	9.2	72	31	997	(*)	----	20	989	8.6	63
850	29	1,496	14.0	58	31	1,481	8.2	65	31	1,484	21.7	28	31	1,483	7.9	73	31	1,461	7.2	69	31	1,473	9.7	56	20	1,459	5.0	68
800	29	2,006	12.0	56	31	1,979	5.4	66	31	2,004	17.2	31	31	1,981	5.2	68	31	1,958	4.6	65	31	1,974	6.8	64	20	1,951	2.1	66
750	29	2,546	9.5	48	31	2,507	2.7	64	31	2,557	12.4	35	31	2,514	2.5	62	31	2,487	2.0	60	31	2,507	3.5	66	20	2,473	−0.1	----
700	29	3,113	6.4	37	31	3,066	−0.2	62	31	3,123	7.5	37	31	3,061	−0.5	59	31	3,035	−0.9	54	31	3,057	0.1	62	20	3,020	−2.9	----
650	29	3,715	2.2	41	29	3,652	−3.6	63	31	3,733	2.6	38	31	3,655	−3.6	54	31	3,630	−4.1	54	31	3,652	−3.4	55	20	3,606	−6.1	----
600	29	4,358	−2.0	37	29	4,279	−6.8	57	31	4,370	−2.4	38	31	4,278	−7.5	51	31	4,251	−7.3	49	31	4,276	−6.9	54	20	4,227	−9.7	----
550	28	5,042	−6.6	38	29	4,954	−10.8	51	31	5,059	−7.5	37	31	4,954	−11.7	52	31	4,928	−11.1	46	31	4,954	−11.1	55	20	4,898	−13.4	----
500	27	5,782	−11.9	----	29	5,679	−15.5	46	31	5,790	−12.9	----	31	5,675	−15.9	47	31	5,650	−16.8	48	31	5,675	−15.7	49	20	5,613	−18.0	----
450	26	6,583	−17.6	----	29	6,469	−21.0	----	30	6,593	−18.7	----	31	6,470	−21.3	----	31	6,444	−21.0	----	31	6,471	−21.0	----	20	6,398	−23.4	----
400	24	7,446	−24.2	----	29	7,324	−27.4	----	30	7,452	−25.3	----	31	7,321	−27.2	----	31	7,297	−27.3	----	31	7,322	−27.0	----	20	7,245	−29.7	----
350	23	8,402	−30.8	----	28	8,270	−34.4	----	29	8,407	−32.9	----	31	8,265	−34.0	----	31	8,245	−34.3	----	30	8,276	−34.1	----	20	8,183	−36.6	----
300	23	9,478	−38.7	----	26	9,345	−41.9	----	28	9,472	−41.2	----	30	9,342	−40.9	----	30	9,321	−42.2	----	30	9,337	−41.8	----	20	9,233	−44.3	----
250	18	10,732	−47.2	----	24	10,554	−49.8	----	25	10,687	−49.7	----	30	10,562	−48.2	----	26	10,544	−50.9	----	27	10,556	−50.0	----	20	10,434	−52.0	----
200	9	12,158	−55.8	----	17	12,013	−57.0	----	24	12,120	−57.5	----	30	12,006	−55.7	----	23	11,971	−58.4	----	20	11,992	−56.4	----	19	11,873	−54.9	----
175	5	13,013	−56.6	----	15	12,855	−58.5	----	17	12,936	−58.8	----	29	12,847	−58.0	----	18	12,789	−59.0	----	8	12,782	−55.8	----	18	12,726	−55.5	----
150	----	----	----	----	10	13,818	−59.2	----	11	13,910	−59.8	----	24	13,793	−57.4	----	14	13,745	−59.2	----	----	----	----	----	15	13,710	−54.4	----
125	----	----	----	----	5	14,968	−60.0	----	----	----	----	----	12	14,957	−58.5	----	9	14,897	−58.2	----	----	----	----	----	9	14,920	−56.8	----
100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	7	16,263	−59.1	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	San Antonio, Tex. (984.6 mb.)				San Juan, P. R. (1,015.2 mb.)				Santa Maria, Calif. (1,005.5 mb.)				Sault Ste. Marie, Mich. (986.4 mb.)				Spokane, Wash. (942.4 mb.)				Swan Island, W. I. (1,012.5 mb.)				Tacubaya, Mexico (774.2 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	31	240	23.2	74	31	15	24.8	80	31	71	14.5	76	31	221	5.6	76	31	598	19.3	38	31	10	26.6	80	26	2,306	16.1	68
1,000	31	103	(*)	----	31	147	23.5	79	31	118	14.1	77	31	107	(*)	----	31	84	(*)	----	31	120	25.7	81	26	63	(*)	----
950	31	556	22.4	73	31	598	20.1	81	31	557	13.7	74	31	535	5.4	67	31	533	(*)	----	31	575	22.2	85	26	527	(*)	----
900	31	1,021	19.7	78	31	1,059	17.0	82	31	1,009	15.7	48	31	969	3.7	64	31	991	16.7	39	31	1,040	19.6	75	26	1,002	(*)	----
850	31	1,513	17.5	71	31	1,545	14.2	77	31	1,494	15.4	35	31	1,431	1.9	61	31	1,475	12.6	45	31	1,531	16.9	67	26	1,498	(*)	----
800	31	2,030	15.5	55	31	2,056	11.6	69	31	2,005	12.6	33	31	1,919	−0.2	58	31	1,980	8.3	51	31	2,046	13.9	63	26	2,025	(*)	----
750	31	2,577	12.6	44	31	2,599	9.2	56	31	2,548	9.5	27	31	2,441	−3.0	59	31	2,515	3.9	58	31	2,593	10.7	57	26	2,577	14.1	68
700	31	3,151	9.2	36	31	3,162	6.3	53	31	3,112	6.2	27	31	2,977	−5.4	61	31	3,065	−0.2	61	31	3,161	8.1	43	26	3,155	9.7	72
650	31	3,761	4.9	41	30	3,767	3.2	53	31	3,718	2.4	28	31	3,504	−8.5	55	31	3,661	−3.7	56	31	3,773	4.9	36	26	3,769	5.2	81
600	30	4,408	0.2	42	30	4,412	−0.3	40	31	4,356	−1.9	27	30	4,173	−11.9	51	31	4,283	−7.2	49	31	4,418	1.4	33	26	4,418	0.8	86
550	30	5,097	−4.6	42	30	5,101	−4.2	38	30	5,046	−6.3	----	30	4,843	−15.8	48	31	4,961	−11.3	42	31	5,115	−2.6	30	25	5,114	−3.6	87
500	28	5,842	−9.9	----	29	5,848	−8.7	36	30	5,780	−11.5	----	30	5,547	−20.2	60	31	5,681	−15.9	40	31	5,864	−7.1	30	25	5,859	−8.0	82
450	28	6,653	−15.4	----	28	6,670	−13.7	----	30	6,589	−17.3	----	30	6,333	−24.9	----	31	6,473	−21.7	----	31	6,689	−12.0	----	24	6,681	−12.9	76
400	28	7,526	−21.5	----	28	7,542	−19.4	----	30	7,452	−23.8	----	30	7,168	−30.7	----	31	7,323	−27.9	----	30	7,571	−17.5	----	24	7,563	−18.4	66
350	27	8,494	−28.7	----	28	8,521	−26.5	----	30	8,413	−31.1	----	29	8,099	−37.5	----	31	8,268	−35.1	----	30	8,557	−24.6	----	23	8,545	−25.6	----
300	26	9,579	−36.6	----	26	9,615	−34.8	----	30	9,487	−37.1	----	26	9,136	−44.2	----	31	9,324	−43.2	----	30	9,660	−33.0	----	23	9,643	−34.2	----
250	26	10,818	−45.6	----	26	10,862	−44.4	----	28	10,715	−47.8	----	21	10,330	−49.0	----	30	10,529	−52.0	----	30	10,916	−42.7	----	15	10,903	−43.3	----
200	24	12,279	−54.4	----	23	12,320	−55.1	----	17	12,166	−55.7	----	18	11,783	−51.0	----	28	11,958	−58.3	----	30	12,384	−54.5	----	7	12,361	−56.3	----
175	19	13,129	−58.9	----	23	13,160	−61.1	----	11	12,980	−57.6	----	9	12,654	−50.0	----	25	12,793	−57.7	----	30	13,225	−60.1	----	----	----	----	----
150	10	14,112	−61.4	----	17	14,094	−67.1	----	6	13,890	−58.8	----	----	----	----	----	20	13,770	−55.8	----	25	14,169	−68.0	----	----	----	----	----
125	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	17	14,931	−55.8	----	12	15,246	−75.0	----	----	----	----	----
100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	9	16,341	−56.3	----	----	----	----	----	----	----	----	----
80	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	6	17,736	−55.9	----	----	----	----	----	----	----	----	----

See footnotes at end of table.

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during May 1947*—Continued

Standard pressure surface (mb.)	Tampa, Fla. (1,016.4 mb.)				Tatoosh Island, Wash. (1,014.0 mb.)				Toledo, Ohio (990.6 mb.)				Washington, D. C. (1,012.2 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	30	9	23.3	80	31	31	10.7	90	31	191	11.2	79	31	25	17.2	71
1,000	30	151	22.7	81	31	146	10.3	87	31	110	(*)	----	31	128	17.1	69
950	30	597	20.3	76	31	576	9.4	74	31	543	10.9	70	31	565	15.4	65
900	30	1,063	17.3	73	31	1,021	8.4	61	31	990	8.8	73	31	1,023	12.9	64
850	30	1,551	15.1	67	31	1,492	6.6	56	31	1,461	6.0	72	31	1,501	9.9	65
800	30	2,062	12.3	63	31	1,988	4.3	48	31	1,956	3.7	63	31	2,003	6.3	67
750	30	2,601	9.2	58	31	2,515	2.3	41	31	2,484	1.1	61	31	2,534	3.7	58
700	29	3,169	5.9	52	31	3,066	−0.6	40	30	3,035	−1.5	53	31	3,088	0.7	58
650	28	3,777	2.4	51	31	3,655	−3.8	40	30	3,628	−4.9	47	31	3,684	−2.8	55
600	28	4,416	−1.1	52	31	4,282	−7.5	41	30	4,247	−8.3	49	31	4,310	−6.5	49
550	28	5,102	−4.6	38	31	4,954	−11.7	44	29	4,917	−12.7	49	31	4,987	−10.2	42
500	28	5,849	−9.2	----	31	5,679	−16.0	45	27	5,629	−17.6	46	31	5,715	−14.8	43
450	28	6,662	−14.8	----	31	6,470	−21.4	----	27	6,416	−22.8	----	31	6,508	−20.3	45
400	28	7,537	−20.9	----	31	7,324	−27.7	----	27	7,264	−29.0	----	31	7,368	−26.0	----
350	28	8,509	−28.0	----	31	8,269	−34.6	----	27	8,204	−36.1	----	31	8,322	−32.9	----
300	27	9,597	−36.2	----	28	9,336	−41.9	----	27	9,259	−42.6	----	31	9,389	−40.8	----
250	26	10,837	−45.7	----	27	10,548	−50.2	----	24	10,478	−49.6	----	31	10,606	−49.5	----
200	25	12,286	−56.4	----	21	11,975	−56.0	----	20	11,928	−54.9	----	27	12,035	−57.5	----
175	23	13,123	−61.8	----	16	12,826	−55.0	----	14	12,769	−57.5	----	23	12,855	−58.8	----
150	14	14,084	−65.8	----	10	13,809	−53.4	----	8	13,721	−55.4	----	17	13,797	−59.0	----
125	9	15,159	−67.2	----									13	14,942	−59.4	----
100													8	16,344	−61.1	----

(*) Temperature and relative humidity data for this level are not available or are available only for certain days. See note entitled "Change in Summarization of Radiosonde Data," p. 6, in the January 1946 issue of the MONTHLY WEATHER REVIEW.

NOTE.—All observations scheduled between 0300 and 0500, G. C. T., except at Ciudad Victoria, Mazatlan, and Merida, where they are taken near 0200, G. C. T.

"Number of observations" refers to those of dynamic height only. (In a few cases temperature or humidity data may be missing for one or more standard pressure surfaces of some observations.) Relative humidity data are not published for standard pressure surfaces having a corresponding mean temperature below −20° C.

All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the values occurring below the operating range of the humidity element. For explanation of the adjustment see article entitled "Curve Method for Obtaining Monthly Means of Relative Humidity," p. 241, MONTHLY WEATHER REVIEW, December 1944.

None of the means included in these tables are based on less than 15 observations at the surface or 5 observations at a standard pressure level.

LATE REPORT FOR TACUBAYA, MEXICO

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during April 1947*

STATION AND MEAN SURFACE PRESSURE

Standard pressure surface (mb.)	Tacubaya, Mexico (773.3 mb.)				Standard pressure surface (mb.)	Tacubaya, Mexico (773.3 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity		Number of observations	Dynamic height	Temperature	Relative humidity
Surface	21	2,306	17.7	44	550	21	5,108	−4.2	68
1,000	21	37	(*)	----	500	21	5,854	−9.3	66
950	21	501	(*)	----	450	21	6,672	−14.1	----
900	21	983	(*)	----	400	21	7,549	−19.4	----
850	21	1,482	(*)	----	350	21	8,527	−26.9	----
800	21	2,015	(*)	----	300	21	9,620	−35.4	----
750	21	2,570	15.7	47	250	18	10,871	−44.9	----
700	21	3,148	11.2	52	200	9	12,336	−55.9	----
650	21	3,765	6.4	58	175	6	13,174	−61.4	----
600	21	4,414	1.2	65					

TABLE 2.—*Free-air resultant winds based on pilot balloon observations made near 5 p. m., E. S. T. (2200 G. C. T.) during May 1947. Directions given in degrees from north (N=360°, E=90°, S=180°, W=270°). Velocities in meters per second*

Altitude (meters) m. s. l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,630 m.)			Atlanta, Ga. (290 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (512 m.)			Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (220 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (276 m.)			Denver, Colo. (1,627 m.)			El Paso, Tex. (1,198 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	31	144	3.8	31	242	3.2	28	254	3.3	31	343	1.3	31	313	2.9	31	316	4.9	31	132	5.9	28	240	5.0	24	206	1.6	31	182	3.1	23	232	3.3	29	63	0.9	31	227	2.9
500							28	253	3.8										31	136	7.4	28	251	6.5	24	218	4.2	31	196	5.0	23	233	5.2						
1,000	31	160	5.1				28	249	4.3				31	310	3.9	31	314	5.1	28	150	5.3	24	245	7.0	24	220	5.0	30	234	4.4	22	229	5.8						
1,500	28	189	4.6				28	259	5.2	31	323	2.2	30	295	4.7	31	312	5.4	24	150	3.6	23	230	7.8	20	249	8.0	30	257	5.3	21	238	6.6				31	217	3.2
2,000	27	217	4.8	31	234	4.2	28	271	6.5	31	306	1.9	26	288	5.1	31	305	4.9	22	159	1.6	16	243	8.9	17	244	9.0	30	264	6.0	16	242	7.9	29	66	.9	31	218	2.9
2,500	26	231	5.8	31	239	4.2	25	276	8.6	29	294	3.5	23	283	7.4	31	300	4.7	21	140	1.4	13	260	11.2	14	256	10.6	28	267	7.1	12	247	10.1	27	245	.4	31	220	3.6
3,000	23	242	7.4	31	236	4.4	22	284	9.4	28	289	6.8	22	284	8.9	30	286	5.2	18	88	1.3	12	273	12.9	12	272	11.4	27	264	7.9	10	241	11.4	25	268	1.9	31	231	4.4
4,000	22	267	8.3	31	258	5.3	20	292	12.2	19	278	11.5	17	298	11.8	28	276	6.9	17	343	2.1	10	267	14.7	10	274	13.4	23	265	7.9				21	281	8.0	31	241	6.4
5,000	20	284	9.5	28	272	8.5	12	279	14.4	15	285	11.9	14	290	13.2	25	278	8.9	15	308	2.9							19	279	8.3				20	284	11.7	30	247	7.4
6,000	17	292	10.4	27	274	8.5	12	278	13.7	13	278	13.0				22	276	10.0	15	299	4.6							15	270	10.0				16	286	14.3	29	250	8.6
8,000	14	284	11.5	21	273	10.7										14	279	13.6	12	266	9.8							11	268	12.8				11	305	17.8	23	269	7.4
10,000				17	274	12.8										10	289	16.3																		17	264	7.6
12,000																																				14	269	11.8

Altitude (meters) m. s. l.	Ely, Nev. (1,910 m.)			Grand Junction, Colo. (1,475 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Joliet, Ill. (178 m.)			Las Vegas, Nev. (575 m.)			Little Rock, Ark. (88 m.)			Medford, Oreg. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (194 m.)			New York, N. Y. (15 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	31	209	0.9	31	280	3.3	30	230	2.8	29	324	2.4	31	120	2.0	29	263	2.4	31	195	1.7	31	212	1.3	31	303	2.2	30	119	3.7	29	179	1.7	31	270	1.3	28	214	2.7
500							30	235	3.8				31	184	1.6	29	266	2.8				31	225	1.7	31	300	1.9	30	115	4.9	29	202	2.8	31	246	3.5	28	236	4.7
1,000							30	231	5.5	29	313	2.9	30	224	3.0	27	262	4.9	31	261	3.0	31	239	3.5	31	307	2.6	29	111	2.7	23	241	2.7	29	243	4.1	28	251	6.5
1,500				31	278	3.4	30	244	6.7	29	302	3.4	27	243	4.8	24	262	6.4	31	194	3.9	30	250	4.3	31	292	1.6	29	109	.9	22	255	2.2	28	243	4.9	25	262	8.3
2,000	31	208	1.2	31	285	4.1	30	255	7.5	28	289	4.0	25	258	6.0	21	259	7.0	31	195	4.1	27	257	5.7	30	227	1.1	27	96	.6	19	270	1.6	25	265	5.9	23	264	8.5
2,500	31	225	1.8	31	280	4.2	26	269	9.1	25	272	5.8	24	271	6.2	14	265	9.6	31	212	4.1	24	271	8.2	30	200	1.8	26	62	.2	18	285	2.1	23	273	8.2	21	278	9.9
3,000	31	257	3.1	30	270	4.0	20	274	10.7	21	277	7.6	22	275	5.9	12	270	12.1	31	227	4.4	22	285	9.7	27	189	1.6	26	126	.4	17	284	4.2	22	279	10.9	15	288	11.4
4,000	27	256	4.4	26	266	5.7	17	278	11.1	14	286	9.7	17	267	8.3				26	254	5.0	18	294	12.2	22	286	2.7	18	307	1.7	11	294	7.9	19	277	12.8			
5,000	23	266	5.9	26	269	8.4	11	289	10.6				13	274	7.5				23	264	5.1	15	295	13.6	14	301	5.5	15	264	3.3				13	290	14.1			
6,000	19	276	6.4	18	294	9.9	10	280	12.4				10	263	9.6				23	278	5.5				14	293	6.4	15	268	4.8									
8,000	14	297	10.0	14	297	13.4													13	278	7.9				13	293	8.9	13	283	6.7									
10,000	13	297	13.4																																				

Altitude (meters) m. s. l.	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (396 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (338 m.)			Rapid City, S. Dak. (982 m.)			St. Louis, Mo. (181 m.)			St. Paul, Minn. (225 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (13 m.)			Sault Ste. Marie, Mich. (225 m.)			Seattle, Wash. (116 m.)			Spokane, Wash. (603 m.)			Washington, D. C. (24 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	31	280	5.0	29	170	3.3	30	305	1.4	31	270	1.5	31	344	2.6	30	244	2.2	19	308	2.8	31	126	3.2	31	246	3.7	28	278	3.3	31	270	2.2	31	246	2.3	31	230	2.3
500	31	283	4.7	29	65	.3	30	278	1.6	31	266	2.2				30	253	3.3	19	314	4.0	31	135	3.9	31	258	3.2	28	287	3.4	31	274	1.5				31	232	5.2
1,000	31	266	3.0	29	196	4.1	30	272	2.4	31	254	2.9	31	344	2.5	28	246	5.1	18	319	5.2	30	143	5.2	24	244	2.0	27	280	3.8	30	248	1.6	31	243	3.5	30	241	6.9
1,500	31	234	2.4	27	214	4.7	28	282	4.5	31	240	3.5	31	331	1.8	28	253	7.0	16	305	3.8	26	156	5.0	19	271	2.6	23	281	5.5	29	226	1.4	30	237	3.2	30	245	7.9
2,000	30	243	1.8	25	245	6.8	27	289	5.6	31	239	3.6	29	300	4.2	25	270	8.8	15	286	5.7	24	174	4.2	19	276	3.4	22	285	6.6	26	244	2.4	29	249	3.2	29	252	9.3
2,500	29	232	2.2	23	254	7.9	23	283	7.3	30	234	3.0	27	295	6.2	24	284	10.9	11	285	8.0	22	199	3.8	18	271	3.4	18	288	8.6	26	232	2.5	26	255	4.4	26	256	11.2
3,000	29	225	3.0	23	258	9.2	21	292	9.9	29	234	3.3	24	290	7.7	24	289	13.5				21	204	3.6	17	288	4.1	15	288	10.0	24	256	3.9	24	262	5.7	24	265	12.7
4,000	27	280	2.3	19	274	10.9	18	295	13.7	28	231	4.0	16	297	12.6	19	291	17.0				20	228	4.5	17	243	4.9	12	293	8.9	22	274	6.6	20	276	8.8	18	262	14.7
5,000	25	262	2.7	17	290	12.7	15	304	19.2	27	231	4.0	13	300	16.2	15	298	21.3				18	255	5.1	16	240	6.2				18	268	8.2	17	288	11.1	17	261	16.3
6,000	25	292	3.0	16	296	14.3	11	304	20.2	26	262	3.9	12	299	18.0	13	287	19.4				15	264	6.8	14	250	8.6				17	267	9.2	16	293	15.6	14	256	18.8
8,000	18	321	5.1							21	280	6.0										10	261	11.7							11	277	14.0	14	291	16.0			
10,000	13	299	8.0							12	266	3.7																						12	289	20.2			

TABLE 3.—*Maximum free-air wind velocities (m. p. s.) for different sections of the United States based on pilot balloon observations during May 1947*

Section	Surface to 2,500 meters (m. s. l.)					2,501 to 5,000 meters (m. s. l.)					Above 5,000 meters (m. s. l.)				
	Maximum velocity	Direction	Altitude (m) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station
Northeast [1]	32.8	wnw.	1,557	6	Portland, Maine	53.2	sw.	4,418	8	Nantucket, Mass	71.6	sw.	11,232	23	Caribou, Maine.
East-Central [2]	39.4	wsw.	1,936	25	Richmond, Va	51.8	ssw.	4,461	2	Richmond, Va	80.8	ssw.	6,081	2	Richmond, Va.
Southeast [3]	35.0	wsw.	2,322	2	Spartanburg, S. C	50.0	w.	4,873	1	Birmingham, Ala	67.0	wsw.	13,782	9	Miami, Fla.
North-Central [4]	42.4	nw.	1,199	1	Huron, S. Dak	44.4	w.	4,873	26	Muskegon, Mich	73.5	sw.	8,961	29	Sault Ste. Marie, Mich.
Central [5]	37.8	n.	1,891	2	Omaha, Nebr	46.4	nw.	4,285	1	Wichita, Kans	58.0	nw.	5,208	1	Lander, Wyo.
South-Central [6]	38.0	s.	1,766	15	Big Springs, Tex	54.4	nw.	4,611	1	Tulsa, Okla	86.0	ssw.	13,429	24	Little Rock, Ark.
Northwest [7]	31.4	sw.	2,500	1	Port Angeles, Wash	42.4	wsw.	4,041	3	Ellensburg, Wash					
						42.4	nnw.	5,000	10	Medford, Oreg	66.0	nw.	7,230	1	Glasgow, Mont.
West-Central [8]	32.8	w.	2,271	18	Rock Springs, Wyo	41.0	n.	5,000	10	Oakland, Calif	58.0	n.	13,370	14	Oakland, Calif.
Southwest [9]	41.6	ssw.	2,490	10	Tucson, Ariz	52.0	nnw.	4,600	10	Santa Maria, Calif	58.0	wsw.	9,500	28	Albuquerque, N. Mex.

[1] Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, and northern Ohio.
[2] Delaware, Maryland, Virginia, West Virginia, southern Ohio, Kentucky, eastern Tennessee, and North Carolina.
[3] South Carolina, Georgia, Florida, and Alabama.
[4] Michigan, Wisconsin, Minnesota, North Dakota, and South Dakota.
[5] Indiana, Illinois, Iowa, Nebraska, Kansas, and Missouri.
[6] Mississippi, Arkansas, Louisiana, Oklahoma, Texas (except El Paso), and western Tennessee.
[7] Montana, Idaho, Washington, and Oregon.
[8] Wyoming, Colorado, Utah, northern Nevada, and northern California.
[9] Southern California, southern Nevada, Arizona, New Mexico, and extreme West Texas.

RIVER STAGES AND FLOODS FOR MAY 1947

C. R. JORDAN

Precipitation during May was below normal from Wisconsin and Iowa westward to the Pacific Coast, and in northern California. It was also drier than usual in eastern Tennessee and along the south Atlantic Coast. Elsewhere, precipitation was generally above normal, with the greatest departures from normal in western Colorado and eastern Utah.

Near-record floods occurred in Arkansas and Oklahoma; light overflow occurred in the Wabash Basin and a few other tributaries of the Ohio River, as well as in the extreme lower Ohio; and unusually early flood peaks were reached in the upper Columbia River Basin. Elsewhere only light overflow at scattered stations was reported, as shown in the table at the end of this report.

Ohio Basin.—Light to moderate flood stages occurred on the Scioto, Green, West Fork, White, and Wabash Rivers. The Tennessee River below Kentucky Dam and the extreme lower Ohio River also overflowed lightly. Most of this overflow was carried over from April floods, augmented in some streams by additional rain during the first few days of May. Overflow was not extensive and little damage resulted.

Arkansas and Red Basins.—Heavy rains during the month, following an unusually wet April, produced floods in portions of Arkansas and Oklahoma. Near-record stages were reached at some stations in the Red River Basin in southwestern Oklahoma. High stream flow was maintained throughout the month. Moderate flooding occurred on the Cimarron, North Canadian, Canadian, and Poteau Rivers; and on the Arkansas River, from Webbers Falls, Okla., to Dardanelle, Ark. Bridge embankments on the lower Canadian River near Whitefield, Okla., were washed out, causing considerable loss. The U. S. Geological Survey reports that the peak stage of the Washita River near Tabler, Okla., was 29.1 feet on May 16, as compared with the maximum known stage of 30.6 feet in April 1927. Cache Creek and the Elm Fork of North Fork Red River also reached near-maximum stages of record. The Little and Sulphur Rivers in Texas reached moderate flood stages on two occasions during the month, and the Red River at Fulton, Ark., exceeded flood stage slightly.

Columbia Basin.—An early and rapid snow melt in the upper Columbia River Basin caused seasonal peaks to be reached early in May. Stages were generally below the highest stages of record, but flood stages were exceeded somewhat in the Kootenai, Flathead, Clark Fork, Clearwater, Willamette, and the Columbia Rivers. Some damage was done by the Kootenai River in the Bonners Ferry area but damage for the most part was confined to the overflow of crop and pasture lands in lowlands along the streams.

FLOOD STAGE REPORT FOR MAY 1947

[All dates in May unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest [1]	
		From—	To—	Stage	Date
ST. LAWRENCE DRAINAGE					
Lake Erie					
	Feet			*Feet*	
St. Marys: Decatur, Ind.	13	Apr. 30	5	16.3	3
		25	26	13.5	26
St. Joseph: Montpelier, Ohio	10	19	19	10.0	19
		22	23	10.5	23
		25	25	10.0	25
ATLANTIC SLOPE DRAINAGE					
Kennebec: Augusta, Maine	13	7	10	14.5	9
Connecticut: Hartford, Conn.	16	7	7	16.0	7
Toughnioga: Whitney Point, N. Y.	12	22	26	12.7	26
Chenango: Sherburne, N. Y.	8	26	26	8.7	26
Chemung:					
Elmira, N. Y.	12	22	22	12.3	22
Chemung, N. Y.	12	22	22	14.6	22
Susquehanna: Oneonta, N. Y.	12	7	10	13.9	8
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla.	15	4	9	16.6	6
		25	[3]	16.3	31
Tombigbee:					
Lock No. 3	33	Apr. 12	5	33.3	Apr. 21
				34.9	3
Lock No. 1	31	Apr. 14	5	37.2	Apr. 24
Pearl:					
Jackson, Miss.	18	Apr. 10	1	29.1	Apr. 21
Pearl River, La.	12	Apr. 1	9	16.0	Apr. 16
		28	30	13.0	29
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Mississippi: Cape Girardeau, Mo.	32	Apr. 11	7	38.7	Apr. 30-May 1
Missouri Basin					
Solomon: Beloit, Kans.	18	Apr. 30	1	23.4	1
Ohio Basin					
Little Miami: Kings Mills, Ohio	17	25	25	18.6	25
Scioto:					
La Rue, Ohio	11	1	1	11.3	1
		26	26	11.7	26
Circleville, Ohio	14	27	27	15.6	27
Piketon, Ohio	15	3	4	15.3	3
		27	28	16.6	28
Rough: Dundee, Ky.	25	26	30	26.8	27
Green:					
Munfordville, Ky.	28	23	23	28.4	23
Lock No. 4, Woodbury, Ky.	33	23	26	35.2	25
Lock No. 2, Rumsey, Ky.	34	27	29	34.5	28
West Fork:					
Anderson, Ind.	10	1	3	10.6	2
Elliston, Ind.	18	Apr. 26	6	21.6	Apr. 28
				20.9	3
Edwardsport, Ind.	12	Apr. 26	9	19.6	1
		19	27	16.5	21
		30	[3]	13.3	31
East Fork: Seymour, Ind.	14	1	4	16.4	2
		18	19	15.7	18
White:					
Petersburg, Ind.	16	Apr. 26	10	21.6	3-4
		21	28	19.1	24-25
Hazleton, Ind.	16	Apr. 9	12	22.5	4
		21	29	19.6	25
Wabash:					
Bluffton, Ind.	10	3	5	10.6	3
Wabash, Ind.	12	Apr. 30	4	15.8	Apr. 30

See footnotes at end of table.

FLOOD STAGE REPORT FOR MAY 1947—Continued

River and station	Flood stage	Above flood stages—dates		Crest [1]	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM—continued					
Ohio Basin—Continued					
Wabash—Continued	Feet			Feet	
Lafayette, Ind.	11	Apr. 30	6	18.0	2
		22	22	11.1	22
Covington, Ind.	16	Apr. 30	7	21.4	3
Terre Haute, Ind.	14	Apr. 26	9	17.8	4
Vincennes, Ind.	14	Apr. 26	12	17.6	7-9
Mt. Carmel, Ill.	17	Apr. 27	13	21.1	6-9
		24	27	17.4	25
New Harmony, Ind.	15	Apr. 30	13	16.7	7-10
Tennessee: Kentucky Dam (LG), Ky.	27	1	10	30.4	6
		26	(2)	29.7	28
Ohio:					
Shawneetown, Ill.	33	28	30	33.4	29
Dam No. 50, Fords Ferry, Ky.	34	6	7	34.3	6-7
		27	(2)	35.3	29
Cairo, Ill.	40	Apr. 10	10	47.1	Apr. 20
				45.8	2
White Basin					
White:					
Georgetown, Ark.	21	5	6	21.0	5-6
Clarendon, Ark.	26	Apr. 23	3	26.4	Apr. 25-27
		7	11	26.0	7-11
		29	(2)	26.0	29-31
St. Charles, Ark.	25	Apr. 26	16	25.4	2, 5-7
Arkansas Basin					
Deep Fork: Dewar, Okla.	18	Apr. 20	6	20.6	22
				20.1	3
		14	29	21.8	20
Cimarron: Perkins, Okla.	11	16	17	13.5	16
North Canadian:					
Woodward, Okla.	5	16	16	5.8	16
Canton, Okla.	9	16	17	10.2	17
		21	21	9.7	21
		24	24	9.3	24
				13.9	13
Yukon, Okla.	11			14.8	16
				14.7	19
				14.1	20
Canadian:					
Union City, Okla.	6	16	16	6.0	16
Whitefield, Okla.	16	13	13	16.9	13
		17	17	18.1	17
		1	2	24.9	1
Poteau: Poteau, Okla.	21	13	15	25.5	15
		18	21	25.0	19
Fouche La Faye: Perryville, Ark.	20	Apr. 28	6	26.3	2
		17	(2)	25.0	22
Arkansas:					
Webbers Falls Okla.	23	18	19	24.0	18
Fort Smith, Ark.	22	Apr. 27	1	25.2	Apr. 30
		17	26	25.9	18
				24.0	25
				25.8	Apr. 30
Van Buren, Ark.	22	Apr. 27	2	24.9	Apr. 27, May 1
				26.7	18
		18	28	25.0	25
Dardanelle, Ark.	22	Apr. 29	2	23.9	1
		19	23	25.0	21
		26	27	22.5	26
Red Basin					
Little Missouri: Boughton, Ark.	20	13	15	21.7	14
Ouachita:					
Arkadelphia, Ark.	17	1	1	19.0	1
Camden, Ark.	26	2	7	28.1	5
		17	23	29.4	19
Black: Black Rock, Ark.	14	1	8	15.8	2

See footnotes at end of table.

FLOOD STAGE REPORT FOR MAY 1947—Continued

River and station	Flood stage	Above flood stages—dates		Crest [1]	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM—continued					
Red Basin—Continued					
	Feet			Feet	
Clear Boggy: Caney, Okla.	21	18	19	21.0	18-19
		21	23	22.0	22
		2	6	26.4	3-4
Little: White Cliffs, Ark.	25	15	23	27.6	16
				27.2	19-20
Sulphur:					
Hagansport, Tex.	38	1	4	41.8	1
		17	19	39.7	18
Naples, Tex.	22	4	11	26.7	5
		20	26	26.7	21
McCartney Bridge, Tex.	22	9	19	24.0	10-11
		23	(2)	24.7	26
Red: Fulton, Ark.	25	23	26	25.6	24
Lower Mississippi Basin					
St. Francis:					
Fisk, Mo.	20	Apr. 26	8	23.1	Apr. 28-May 2
St. Francis, Ark.	18	Apr. 15	14	20.4	3-5
Yazoo: Yazoo City, Miss.	29	1	15	31.4	1-4
Mississippi:					
New Madrid, Mo.	34	Apr. 13	9	37.5	Apr. 20-21
				36.3	2-4
Caruthersville, Mo.	32	Apr. 14	9	35.8	Apr. 21-22
				34.6	3, 4
Atchafalaya Basin					
Atchafalaya:					
Atchafalaya, La.	25	Apr. 19	(2)	26.5	2-12
Morgan City, La.	6	21	21	6.2	21
WEST GULF OF MEXICO DRAINAGE					
East Fork: Rockwall (nr), Tex.	10	1	3	12.4	3
		8	11	13.8	9
Trinity: Liberty, Tex.	24	20	27	27.3	23
Rio Grande: Espanola, N. Mex.	7	9	9	7.0	9
		11	13	7.4	12
GULF OF CALIFORNIA DRAINAGE					
Colorado Basin					
Animas: Durango, Colo.	4	3	7	5.0	6
		9	10	4.8	10
		22	24	4.0	22-24
		27	27	4.5	27
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Kootenai: Bonners Ferry, Idaho	31	11	13	31.3	12
Flathead:					
Polson, Mont.	15.6	13	21	16.6	15
Somers, Mont.	93	13	18	93.2	15, 16
Columbia Falls, Mont.	13.2	4	13	17.6	10
Clark Fork: Missoula, Mont.	9.5	6	12	11.0	10
Clearwater: Kamiah, Idaho	14	4	10	16.1	8
Willamette: Portland, Oreg.	18	12	14	18.4	12-13
Columbia:					
The Dalles, Oreg.	40	9	(2)	43.4	12
				42.5	28
Vancouver, Wash.	15	10	(2)	18.7	13
				18.0	18
				17.5	31

[1] Provisional.

[2] Continued at end of month.

CLIMATOLOGICAL DATA FOR MAY 1947

CONDENSED CLIMATOLOGICAL SUMMARY OF TEMPERATURE AND PRECIPITATION BY SECTIONS

[For description of tables and charts, see Review, January 1943, p. 15]

In the following table are given for the various sections of the climatological service of the Weather Bureau the monthly average temperature and total rainfall; the stations reporting the highest and lowest temperatures, with dates of occurrence; the stations reporting the greatest and least total precipitation; and other data as indicated by the several headings.

The mean temperature for each section, the highest and lowest temperatures, the average precipitation and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperatures and precipitation are based only on records from stations that have 10 or more years of observations. Of course, the number of such records is smaller than the total number of stations.

Section	Temperature								Precipitation					
			Monthly extremes								Greatest monthly		Least monthly	
	Section average	Departure from the normal	Station	Highest	Date	Station	Lowest	Date	Section average	Departure from the normal	Station	Amount	Station	Amount
	°F.	°F.		°F.			°F.		In.	In.		In.		In.
Alabama	70.5	−0.9	5 stations	93	[1] 5	Valley Head	33	9	5.93	+1.98	Andalusia	12.52	Winfield	1.62
Arizona	69.6	+3.5	Mohawk	116	[1] 3	Alpine	20	13	.66	+.34	McNary	3.72	6 stations	.00
Arkansas	67.4	−1.6	4 stations	95	4	2 stations	35	[1] 9	5.50	+.44	Greenwood	10.37	Lake City	1.81
California	65.0	+3.6	Mecca	119	1	Ellery Lake	18	10	.46	−.47	Lakeshore	4.43	15 stations	.00
Colorado	53.9	+1.5	Fruita	96	4	Red Feather Lakes	12	28	2.85	+.95	Lake Moraine	9.27	Olathe	.13
Florida	76.4	+.8	High Springs	96	17	Lake City	47	4	4.80	+.84	West Palm Beach	10.11	Bradenton	.38
Georgia	70.6	−.9	Folkston	99	17	Blairsville	28	9	4.29	+.83	Blakely	10.41	Savannah Beach	1.44
Idaho	57.2	+4.1	Grandview	99	[1] 2	2 stations	20	29	1.40	−.27	Three Creek	3.37	Moscow	.37
Illinois	59.4	−3.3	2 stations	90	15	do	26	[1] 8	4.31	+.16	Charleston	7.21	Harrisburg	2.27
Indiana	59.0	−3.2	Bloomington	91	15	6 stations	24	[1] 9	5.17	+1.06	La Porte	11.99	LaFayette Airport	2.88
Iowa	55.6	−4.9	Onawa	91	14	Decorah	22	9	4.26	+.30	Van Meter (River)	7.14	Lake Park	1.72
Kansas	60.9	−2.9	Ashland	96	3	Burr Oak	27	[1] 7	4.50	+.69	Oxford	9.46	Clifton	2.15
Kentucky	62.3	−3.0	Pikeville	92	23	Headquarters	23	10	5.66	+1.67	Leitchfield	9.54	Pikeville	2.52
Louisiana	73.6	−.1	Winnfield	96	4	North Livingston	38	23	5.28	+.53	Basile	13.43	Winnsboro	1.26
Maryland-Delaware	63.4	+.5	Cumberland, Md	95	28	Oakland, Md	18	10	5.22	+1.63	Elkton, Md	10.39	Millsboro, Del	2.31
Michigan	49.5	−4.6	Caro	83	12	3 stations	13	9	4.91	+1.60	Wayne	8.17	Detour	1.47
Minnesota	50.5	−4.6	Detroit Lakes	86	17	Grand Rapids	16	9	2.37	−.89	Long Prairie	4.92	Hallock	1.12
Mississippi	70.7	−1.1	2 stations	95	[1] 4	2 stations	40	10	5.37	+1.04	Laurel	11.29	State College	1.66
Montana	53.1	+1.1	Ballentine	93	2	Adel	6	28	.97	−1.11	Red Lodge	3.37	2 stations	.15
Nebraska	56.7	−2.5	Haigler	94	6	Box Butte Exp. Farm	15	29	2.91	−.49	Falls City	7.60	Elm Creek	1.21
Nevada	61.8	+5.9	Overton	111	3	Sheldon	19	10	1.02	+.17	Lamoille	3.42	Carson City	.02
New England	53.8	−1.3	3 stations	90	24	First Conn. Lake, N. H.	14	[1] 10	4.82	+1.39	Lemington, Vt	9.34	Baltic, Conn	2.09
New Jersey	60.1	−.5	Runyon	94	29	Layton	18	10	7.22	+3.60	Morris Plains	9.92	Belmar	3.77
New Mexico	61.7	+2.0	Hagerman	106	[1] 4	Red River	10	18	1.77	+.55	Hobbs	7.05	2 stations	.00
New York	55.0	−1.1	Utica	92	29	Lake Placid Club	18	10	6.33	+2.78	Glenham	9.60	Cutchogue	2.66
North Carolina	67.2	+.3	2 stations	97	18	Mount Mitchell	20	[1] 8	2.68	−1.31	Tapoco	5.49	Manteo	.34
North Dakota	49.9	−3.5	Granville	87	30	Towner	13	28	1.11	−1.17	Carrington	2.27	Gackle	.21
Oklahoma	66.5	−1.8	Altus	100	4	Kenton	30	29	6.83	+2.07	Eufaula	13.11	Caney	3.30
Oregon	57.7	+4.4	The Dalles	101	25	Fremont	11	11	.86	−.89	Crater Lake	3.20	Big Eddy	.02
Pennsylvania	57.7	−2.0	Phoenixville	93	[1] 14	3 stations	16	10	6.36	+2.35	Freeland	11.84	Dunlo	2.16
South Carolina	71.0	+.1	2 stations	97	[1] 14	Walhalla	31	9	3.04	−.43	Yemassee	6.68	Marion	.90
South Dakota	53.5	−2.8	3 stations	87	[1] 2	Ralph	14	29	1.25	−1.61	Pine Ridge	3.74	Gannvalley	.28
Tennessee	64.7	−2.2	2 stations	92	[1] 15	2 stations	26	[1] 9	5.18	+1.04	Covington	9.57	Kingsport	2.01
Texas	72.6	−.4	5 stations	106	[1] 3	Follett	32	29	5.05	+1.35	Liberty	11.72	Presidio	.66
Utah	50.3	+3.8	2 stations	102	[1] 3	4 stations	26	[1] 1	1.64	+.43	Red Butte No. 6	3.81	Hill Creek No. 1	.28
Virginia	64.3	.0	do	96	18	Burkes Garden	20	10	3.34	−.39	Waterford	7.15	Emory	1.39
Washington	59.9	+4.4	Richland	105	26	Paradise R. S	23	[1] 10	.59	−1.36	Clearwater	3.32	3 stations	.00
West Virginia	60.1	−1.6	Hinton	96	[1] 23	2 stations	14	10	3.57	−.43	Point Pleasant	6.77	Naoma	1.38
Wisconsin	50.7	−4.5	Danbury	85	31	do	14	9	3.93	+.27	Oconomowoc	6.73	Ellsworth	2.29
Wyoming	51.7	+2.1	2 stations	91	[1] 3	do	12	29	2.42	+.34	Middle Fork	5.75	Sundance	.39
Alaska (April)	27.6	+.3	Edna Bay	70	16	Umiat	−36	1	1.49	+.02	Little Port Walter	15.18	4 stations	T
Hawaii (April)	70.7	+.9	Waianae	90	[1] 2	Haleakala R. S	39	5	4.58	−3.82	Makahanaloa #2 (mauka)	26.00	11 stations	.00
Puerto Rico	76.9	+.5	Vieques (Exp. Substation)	97	29	Utuado	52	5	7.35	−.84	San Sebastian	22.50	Losey Field (W. B. O.)	.29

[1] Other dates also.

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS FOR MAY 1947

District and station	Elevation of instruments: Barometer above sea level	Thermometer above ground	Anemometer above ground	Pressure: Station	Sea level	Departure from normal	Temperature of the air: Mean	Departure from normal	Maximum	Date	Mean maximum	Minimum	Date	Mean minimum	Greatest daily range	Total degree days	Mean temperature of the dew point	Mean relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	Days with 0.01 inch or more	Wind: Average hourly velocity	Prevailing direction	Maximum velocity: Miles per hour	Direction	Date	Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month	Number of days with thunderstorms
NEW ENGLAND	*Ft.*	*Ft.*	*Ft.*	*Mb.*	*Mb.*	*Mb.*	° *F.*	° *F.*	° *F*		° *F.*	° *F.*		° *F.*	° *F.*		° *F.*	%	*In.*	*In.*	*In.*		*Mi.*								*0–10*	*In.*	*In.*	*In.*
							53.3	−0.5										76	4.30	+1.1											6.9			
Eastport	75	67	85	1,011.2	1,013.9	.0	48.2	+.5	74	26	55	32	10	41	27	520	40	76	5.44	+2.4	1.35	17	10.7	s.	32	e.	1	5	8	18	7.1	.0	.0	2
Greenville, Maine	1,070	6	41	974.3	1,013.5	−.7	46.6	−2.9	77	23	58	20	10	35	46	570	38	73	5.42	+2.2	1.30	17	5.1	n.	22		20	3	10	18		T	.0	1
Portland, Maine [1]	103	5	43	1,009.8	1,013.5	−1.1	51.4	+.2	82	12	62	24	10	41	43	426	42	75	4.37	+1.0	.86	19	10.0	w.	27	w.	8	4	11	16	7.0	.0	.0	1
Concord [1]	289	4	45	1,003.1	1,013.9	−.7	54.0	+1.1	88	24	67	21	10	42	47	349	42	68	3.34	+.3	.63	18	8.1	nw.	24	nw.	27	5	9	17	7.1	.0	.0	1
Burlington [1]	403	6	51	997.6	1,012.5	−1.7	54.1	−2.4	82	12	65	25	10	43	39	341	44	72	5.05	+2.2	1.11	15	9.9	nw.	34	se.	20	6	8	17	7.0	T	.0	4
Boston [1]	124	33	62	1,009.5	1,013.9	−.7	56.9	−.2	87	13	66	36	10	48	33	286	44	69	4.36	+1.2	1.30	16	12.2	sw.	30	sw.	28	5	10	16	7.0	.0	.0	3
Nantucket [1]	12	4	34	1,014.2	1,014.9	+.3	52.0	−.3	75	27	59	34	15	45	26	405	47	87	5.52	+2.7	3.07	13	14.3	sw.	52	s.	1	5	8	18	6.9	.0	.0	1
Block Island	26	11	46	1,013.2	1,014.2	−.4	52.6	−.2	72	13	59	37	9	46	23	386	46	87	3.71	+.2	1.54	15	16.1	sw.	34	ne.	14	7	9	15	6.5	.0	.0	3
Providence [2]	159	46	60	1,008.5	1,014.6	.0	58.1	−.4	87	13	68	33	9	48	33	243	45	74	3.73	+.8	1.13	14	9.8	sw.	29	sw.	28	5	12	14	6.7	.0	.0	2
Hartford [1]	159	5	44	1,008.5	1,014.2	−.7	55.4	−.5	87	13	68	28	10	46	39	273	46	74	3.10	−.5	1.04	16	9.2	s.	27	nw.	7	5	10	16	6.9	.0	.0	3
New Haven [1]	107	5	39	1,010.5	1,014.6	−.3	55.0	−.4	79	13	64	32	10	46	31	311	46	76	3.21	−.2	.79	16	7.8	sw.	21	e.	21	5	13	13	6.5	.0	.0	4
MIDDLE ATLANTIC							62.3	+.2										72	4.70	+1.3											6.2			
Albany [1]	97	26	40	1,009.5	1,013.2	−1.0	56.8	−.9	88	29	68	30	11	46	38	281	44	69	5.13	+2.5	1.45	17	10.5	w.	33	w.	20	6	4	21	7.0	T	.0	6
Binghamton [2]	871	60	79	983.4	1,013.5	−1.4	57.8	+.4	90	29	69	29	10	47	43	260	47	73	5.32	+2.0	1.20	19	6.5	w.	20	w.	8	5	7	19	7.1	.2	.0	8
New York	314	415	454	1,005.1	1,013.3	+1.7	59.0	−1.0	83	13	67	34	9	51	26	216	48	71	4.86	+1.6	1.25	16	13.9	nw.	45	nw.	7	4	14	13	6.5	.0	.0	6
Harrisburg [1]	374	30	49	1,000.7	1,014.6	−.6	61.1	−.7	89	29	72	32	9	50	43	187	50	72	5.27	+1.8	1.61	17	8.1	nw.	29	nw.	7	8	9	17	6.8	.0	.0	10
Philadelphia [3]	114	5	57	1,010.5	1,014.6	−1.0	62.0	−.9	87	29	71	35	9	53	29	165	51	74	8.68	+5.4	1.91	15	7.7	s.	24	sw.	29	7	12	12	6.3	T	.0	9
Reading	323	47	306	1,002.7	1,014.6	−.3	61.6	−.3	89	24	72	34	9	51	35	184			5.58	+1.9	1.03	17	11.4	w.	42	e.	2	8	5	18	6.7	.0	.0	9
Scranton	805	72	104	984.8	1,013.5	−1.7	58.6	−.8	89	29	69	31	8	48	40	245			6.99	+3.7	2.29	18	6.9	sw.	33	nw.	13	7	12	12	6.1	T	.0	6
Atlantic City	52	37	172	1,012.9	1,014.9	−.3	57.8	−.3	78	27	64	36	9	51	23	231	50	82	4.10	+1.0	.98	14	15.7	s.	40	ne.	14	7	9	15	6.4	.0	.0	7
Trenton	190	89	107	1,007.5	1,014.2	−1.0	60.9	−.2	88	29	71	34	9	51	33	186			6.86	+3.8	1.15	14	9.4	s.	31	sw.	25	6	12	13	6.4	.0	.0	10
Baltimore [3]	123	100	215	1,010.2	1,014.6	−.6	64.5	+.1	90	13	74	37	9	55	35	126	51	68	3.95	+.4	1.08	14	10.2	s.	44	sw.	5	6	15	10	5.6	.0	.0	9
Washington [2]	112	56	100	1,010.8	1,014.9	−.3	65.4	+1.7	91	13	76	35	9	54	41	121	52	68	4.05	+.4	1.51	14	7.3	s.	31	nw.	7	5	15	11	6.1	.0	.0	8
Cape Henry	18	8	54	1,014.6	1,015.2	−.4	67.3	+3.1	94	18	76	42	11	58	34	86	56	74	1.40	−2.2	.59	10	11.1	s.	37	n.	7	9	12	10	5.5	.0	.0	6
Lynchburg [1]	686	4	50	990.2	1,014.9	−.7	65.4	−.5	88	19	78	32	9	53	39	108	52	69	2.99	−.6	1.42	11	8.4	sw.	29	sw.	25	11	13	7	5.0	.0	.0	10
Norfolk [3]	91	80	125	1,012.5	1,015.6	−.3	68.8	+2.6	93	19	78	45	11	59	33	60	56	72	1.86	−2.0	.60	9	10.1	sw.	27	n.	7	8	10	13	6.0	.0	.0	5
Richmond [2]	144	11	52	1,009.1	1,014.2	−1.4	67.4	+.9	93	19	79	36	9	56	41	83	54	70	3.47	−.3	1.30	9	8.0	s.	31	w.	29	10	18	3	4.8	.0	.0	6
SOUTH ATLANTIC							70.9	+1.0										71	2.28	−1.1											5.2			
Asheville	2,253	77	92	937.4	1,015.9	−.4	63.2	+.6	86	15	76	34	10	50	40	129	50	70	1.93	−1.5	.83	10	7.5	nw.	43	sw.	1	12	10	9	5.0	.0	.0	5
Charlotte [3]	779	63	88	987.8	1,015.2	−.7	70.2	+1.3	92	18	81	44	4	59	32	46	54	64	2.08	−1.6	1.29	10	7.7	sw.	20	sw.	25	8	13	10	5.4	.0	.0	6
Greensboro [1]	886	6	58	984.1	1,015.6	−1.0	67.3	+.9	92	18	80	36	11	54	40	78	53	68	1.84	−2.2	1.17	8	8.3	sw.	30	w.	1	9	13	9	5.0	.0	.0	10
Raleigh [3]	376	5	69	1,001.7	1,015.6	.0	69.6	+1.1	95	18	81	41	11	58	37	48	56	72	2.11	−1.7	.73	11	7.8	sw.	24	sw.	2	11	11	9	5.0	.0	.0	7
Wilmington	72	73	107	1,013.9	1,016.3	.0	70.4	−.4	87	17	79	46	11	62	29	30	60	76	2.83	−.6	1.07	8	10.7	sw.	30	s.	21	8	17	6	5.2	.0	.0	10
Charleston [3]	48	11	92	1,014.6	1,016.3	.0	73.4	+.7	92	15	81	53	12	66	25	10	62	80	2.79	−.2	1.40	11	10.8	s.	27	ne.	10	11	12	8	5.0	.0	.0	5
Columbia, S. C. [2]	347	70	91	1,003.1	1,015.6	−.3	72.7	+.8	95	15	84	47	10	62	33	19	58	66	3.36	+.3	1.11	11	8.4	s.	29	sw.	21	14	10	7	4.3	.0	.0	7
Greenville, S. C. [1]	1,040	18	36	978.3	1,014.9	−.7	69.4	+2.2	90	15	81	45	8	58	34	39	52	62	2.20	−1.8	.75	8	9.0	sw.	26	w.	7	10	11	10	5.5	.0	.0	5
Augusta [3]	182	62	77	1,009.1	1,015.9	+.3	73.2	+.8	94	17	84	47	12	62	33	16	56	64	1.73	−1.3	.77	5	6.2	s.	28	w.	1	10	13	8	5.1	.0	.0	6
Savannah [1]	65	73	152	1,014.2	1,016.6	+.3	73.6	+1.9	94	15	83	51	12	64	27	6	64	80	2.28	−.7	1.27	7	10.1	s.	30	nw.	1	6	13	12	6.0	.0	.0	7
Jacksonville [3]	43	86	110	1,015.2	1,016.6	+.3	76.5	+1.5	91	18	85	59	4	68	24	0	65	74	3.01	−1.0	.75	9	8.6	sw.	30	sw.	22	6	13	12	5.9	.0	.0	10
FLORIDA PENINSULA							78.4	+.9										75	2.86	−1.7											5.2			
Key West [3]	21	10	64	1,014.9	1,015.9	+1.0	80.6	+1.5	89	29	86	69	5	75	18	0	68	73	4.05	+.5	2.37	8	8.7	e.	22	e.	12	12	13	6	4.7	.0	.0	5
Miami [3]	25	242	249	1,015.6	1,016.3	+.4	77.2	.	085	30	81	69	5	73	14	0	68	75	3.35	−3.8	1.41	11	13.2	se.	37	ne.	11	10	9	12	5.5	.0	.0	6
Tampa [1]	35	6	43	1,015.2	1,016.6	+.7	77.6	+1.3	91	17	87	61	13	69	25	0	68	77	1.19	−1.8	.45	5	8.2	e.	25	s.	22	11	11	9	5.4	0	0	5
EAST GULF							72.3	−.6										75	5.27	+1.4											6.0			
Atlanta [1]	1,173	33	72	974.6	1,015.2	−.7	68.9	−1.4	91	15	80	45	10	58	33	38	54	66	4.99	+1.6	2.03	8	10.3	sw.	34	nw.	2	11	12	8	5.1	.0	.0	7
Macon [3]	370	79	87	1,002.4	1,015.9	.0	71.5	−.8	92	15	83	44	10	60	34	22	57	67	5.09	+2.1	1.80	9	6.4	s.	29	sw.	28	9	11	11	5.8	.0	.0	9
Thomasville	274	49	58	1,007.5	1,017.3	+1.7	73.8	−.2	92	17	84	53	9	63	28	0			3.09	−.5	.94	10						8	15	8		.0	.0	9
Apalachicola	35	11	51	1,015.2	1,016.6	+.7	74.9	+.3	87	30	82	58	10	68	19	0	68	82	3.71	+.3	2.66	7	8.2	s.	24	nw.	29	10	10	11	5.4	.0	.0	9
Pensacola [3]	56	54	79	1,014.2	1,016.6	+.7	74.6	+.7	85	6	81	59	10	68	20	0	64	76	6.06	+2.7	3.20	10	8.0	s.	34	nw.	6	10	12	9	5.2	.0	.0	10
Birmingham [1]	700	5	62	991.2	1,015.9	−1.0	67.9	−1.4	89	16	80	41	10	56	35	41	56	70	3.83	−.1	1.16	9	8.2	sw.	31	sw.	2	7	11	13	6.2	.0	.0	6
Mobile [2]	57	86	161	1,013.9	1,015.9	+.3	74.0	−.4	88	5	82	55	10	66	24	0	64	81	11.41	+7.1	4.65	11	8.5	s.	42	nw.	29	6	9	16	6.3	.0	.0	12
Montgomery [3]	218	92	105	1,008.1	1,015.9	.0	72.3	−1.1	89	16	82	48	10	62	29	5	60	74	4.11	+.3	1.44	7	7.2	sw.	25	s.	28	7	12	12	6.0	.0	.0	6
Meridian [3]	375	67	92	1,002.4	1,015.9	+.7	70.4	−.9	88	28	81	47	10	59	33	14	60	76	6.41	+2.1	2.36	11	6.1	sw.	23	w.	2	9	6	16	6.2	.0	.0	11
Vicksburg [3]	247	82	102	1,006.4	1,015.2	.0	70.8	−2.1	87	14	80	53	10	62	27	6	62	81	3.30	−1.0	1.18	10	8.5	s.	27	nw.	6	6	10	15	6.6	.0	.0	8
New Orleans	53	76	84	1,013.9	1,015.6	+.4	76.2	+.8	89	5	84	61	10	68	24	0	66	76	5.94	+1.3	2.96	11	6.7	se.	18	e.	9	3	10	18	6.8	.0	.0	3
WEST GULF							73.5	−.2										76	5.34	+1.2											6.1			
Shreveport [1]	249	5	64	1,005.1	1,013.9	+.7	71.8	−.8	94	4	82	50	3	62	34	0	60	72	2.84	−1.4	1.06	8	9.3	s.	30	se.	17	7	11	13	6.2	.0	.0	9
Fort Smith [1]	463	57	82	997.6	1,013.9	+1.7	67.4	−2.2	91	14	78	45	30	57	35	33	55	68	6.19	+1.4	2.73	10	7.7	ne.	28	nw.	28	9	10	12	5.7	.0	.0	12
Little Rock [1]	357	26	58	1,002.0	1,014.9	+.7	68.6	−1.7	92	4	79	49	10	58	34	25	57	72	6.87	+2.1	2.89	11	8.3	sw.	31	w.	2	8	14	9	5.6	.0	.0	8
Austin [1]	605	10	41	992.2	1,013.2	+.3	74.0	−.6	95	4	84	52	29	64	32	1	62	76	3.55	−1.1	1.41	10	9.4	s.	29	n.	16	8	8	15	6.0	.0	.0	9
Brownsville [1]	57	5	54	1,009.5	1,011.5	−.4	80.1	+1.5	93	4	89	65	25	71	23	0	71	82	3.65	+1.1	1.57	8	12.5	se.	55	se.	23	3	15	13	6.6	.0	.0	5
Corpus Christi [1]	20	4	33	1,011.9	1,012.9	.0	76.9	+2.4	91	6	85	60	30	68	26	0	70	84	5.29		2.76	7	12.1	se.	51	nw.	20	4	15	12	6.3	.0	.0	5
Dallas [1]	512	5	45	994.9	1,013.2	+.3	72.3	−.6	98	4	83	48	30	62	37	11	60	70	1.55	−2.9	.98	7	11.4	s.	34	s.	31	7	9	15	5.9	.0	.0	6
Fort Worth [1]	679	40	56	989.2	1,013.2	+.3	71.2	−1.0	100	4	82	46	29	60	34	19	60	70	2.50	−2.2	.99	7	11.6	s.	34	nw.	16	8	10	13	5.9	.0	.0	7
Galveston [3]	54	106	114	1,012.5	1,014.2	−.4	75.4	+.6	84	29	80	61	23	71	18	0	70	84	10.24	+5.7	4.17	10	10.5	se.	40	ne.	23	6	8	17	6.8	.0	.0	10
Houston [3]	138	157	190	1,009.1	1,014.2	+.3	75.4	−.1	94	1	84	60	30	67	25	0	67	82	10.24	+5.7	4.17	10	10.5	se.	40	ne.	23	6	8	17	6.8	.0	.0	10
Palestine	510	64	72	996.6	1,014.6	+.7	71.8	−.9	92	4	81	50	29	62	27	5	60	71	7.47	+2.9	2.65	8	7.6	s.	24	ne.	23	9	7	15	5.9	.0	.0	6
Port Arthur [3]	34	59	134	1,013.2	1,014.2	.0	75.4	+.2	87	31	83	60	21	68	25	0	66	81	8.05	+3.9	3.11	8	13.4	s.	50	ne.	23	7	11	13	6.2	.0	.0	7
San Antonio [1]	693	8	51	988.5	1,012.9	+.4	75.2	+.1	98	4	87	52	22	64	36	0	64	75	3.32	+.1	1.38	10	9.5	se.	33	se.	10	7	8	16	6.2	.0	.0	10
OHIO VALLEY AND TENNESSEE							61.6	−2.2										71	4.59	+.9											6.3			
Chattanooga [1]	762	6	66	988.5	1,015.6	−.3	66.2	+.7	90	28	80	37	9	53	39	73	54	70	2.56	−1.2	1.01	11	7.5	s.	41	nw.	29	9	10	12	5.7	.0	.0	10
Knoxville [1]	995	27	53	980.4	1,015.9	.0	65.4	−1.3	89	16	78	36	9	53	37	89	52	67	3.36	−.4	.98	12	8.4	sw.	48	sw.	1	9	9	13	5.7	.0	.0	5
Memphis [4]	399	5	86	1,000.7	1,014.9	.0	68.1	−1.7	89	15	79	44	8	57	31	37	56	68	4.68	+.5	.86	10	8.4	s.	30	s.	1	6	16	9	5.6	.0	.0	9
Nashville [1]	546	5	72	995.9	1,015.2	−.7	64.9	−3.3	89	15	77	36	8	53	40	102	54	71	6.47	+2.6	2.51	13	8.5	s.	42	nw.	1	8	12	11	5.8	.0	.0	8
Lexington [1]	989	4	28	979.3	1,014.9	−.7	60.3	−4.0	83	15	71	32	9	49	35	199	50	74	4.75	+.9	1.49	12		s.				8	11	12	5.8	.0	.0	6
Louisville [1]	525	106	120	995.6	1,014.6	−1.0	62.4	−2.7	87	15	74	33	9	51	43	159	50	69	6.04	+2.3	1.57	13	7.6	s.	34	sw.	17	10	6	15	5.9	T	.0	7

See footnotes at end of table.

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS FOR MAY 1947—Continued

District and station	Elevation of instruments: Barometer above sea level	Elevation of instruments: Thermometer above ground	Elevation of instruments: Anemometer above ground	Pressure: Station	Pressure: Sea level	Pressure: Departure from normal	Temperature of the air: Mean	Temperature of the air: Departure from normal	Temperature of the air: Maximum	Temperature of the air: Date	Temperature of the air: Mean maximum	Temperature of the air: Minimum	Temperature of the air: Date	Temperature of the air: Mean minimum	Temperature of the air: Greatest daily range	Total degree days	Mean temperature of the dew point	Mean relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: Days with 0.01 inch or more	Wind: Average hourly velocity	Wind: Prevailing direction	Wind: Maximum velocity: Miles per hour	Wind: Maximum velocity: Direction	Wind: Maximum velocity: Date	Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month	Number of days with thunderstorms
OHIO VALLEY AND TENNESSEE—Con.																																		
	Ft.	*Ft.*	*Ft.*	*Mb.*	*Mb.*	*Mb.*	°F.	°F.	°F.		°F.	°F.		°F.	°F.		°F.	%	*In.*	*In.*	*In.*		*Mi.*								*0–10*	*In.*	*In.*	
Evansville [1]	431	11	40	999.0	1,014.6	−.6	62.0	−2.3	88	15	74	35	9	50	43	157	52	71	3.77	−.1	1.10	14	8.2	nw.	34	w.	1	8	8	15	6.3	.0	.0	10
Indianapolis [1]	823	5	54	983.7	1,013.5	−1.7	58.3	−3.1	85	15	69	29	9	48	37	228	48	72	3.91	----	.86	15	10.2	sw.	37	w.	17	4	13	14	6.5	.0	.0	8
Terre Haute [2]	575	65	149	993.9	1,014.6	−.3	59.8	−3.6	86	15	71	29	9	48	36	191	50	75	5.76	+1.9	1.44	14	10.0	s.	36	w.	29	5	12	14	6.4	.0	.0	8
Cincinnati [3]	627	11	51	992.2	1,014.9	−.7	62.8	−.3	87	28	74	33	9	52	38	149	49	72	5.07	+1.4	1.50	14	4.4	se.	18	nw.	4	6	10	15	6.5	T	.0	8
Columbus [2]	822	90	110	985.1	1,013.9	−1.7	59.4	−2.9	83	28	69	30	9	50	33	218	50	76	4.94	+1.4	1.46	16	9.7	s.	38	s.	1	8	3	20	6.9	T	.0	9
Dayton [1]	1,003	6	55	978.3	1,014.6	−.3	57.6	−4.2	81	28	68	27	9	48	32	248	49	76	6.39	+2.8	1.59	15	11.3	sw.	47	nw.	1	8	7	16	6.5	T	.0	9
Elkins [1]	1,947	4	45	946.5	1,015.2	−1.1	57.2	−.5	86	28	70	21	10	44	49	265	47	73	3.84	−.2	.91	16	7.3	nw.	39	sw.	29	6	7	18	6.8	T	.0	11
Parkersburg	637	77	84	991.9	1,014.9	−1.0	61.4	−2.4	88	28	74	29	10	49	43	177	48	68	3.59	+.2	1.15	13	6.3	se.	29	nw.	29	5	10	16	6.5	.0	.0	7
Pittsburgh [1]	842	39	54	984.1	1,013.9	−1.3	58.7	−1.5	85	28	69	30	9	48	35	226	47	70	3.78	+.6	.95	16	10.2	sw.	37	nw.	29	5	6	20	7.0	T	.0	7
LOWER LAKES																																		
Buffalo [1]	768	34	96	985.1	1,013.5	−1.4	54.4	−2.4																										
Canton	448	10	61	996.3	1,012.5	−1.0	52.8	−3.1	79	29	63	26	10	42	34	376	44	74	5.44	+2.2											6.9			
Oswego	335	71	85	1,000.7	1,013.2	−1.4	51.8	−2.4	79	25	62	26	10	42	37	407	42	76	4.83	+1.7	.88	18	14.0	sw.	49	sw.	29	5	7	19	7.0	.8	.0	4
Rochester [1]	523	5	69	994.2	1,013.2	−2.0	52.5	−1.2	81	29	62	31	8	43	37	388	43	74	5.11	+2.1	1.55	17	10.4	w.	30	e.	14	5	9	17	6.9	T	.0	7
Syracuse [1]	596	5	57	991.5	1,013.2	−2.0	54.2	−1.9	80	21	65	29	10	44	39	334	44	76	5.06	+2.1	1.30	18	9.0	w.	24	sw.	21	7	9	15	6.4	.2	.0	8
Erie [2]	714	57	81	987.8	1,013.5	−1.7	55.5	−.8	87	29	67	30	10	44	39	300	46	72	5.53	+2.5	1.41	20	10.2	sw.	33	w.	20	3	10	18	7.2	.2	.0	8
Cleveland [1]	762	27	54	986.1	1,013.9	−1.3	54.0	−2.8	75	29	62	32	10	46	29	340	46	80	5.98	+2.6	1.34	17	8.5	w.	26	sw.	29	7	6	18	6.7	T	.0	8
Sandusky	629	5	67	991.2	1,014.2	−1.0	56.3	−2.9	81	28	66	29	10	46	35	283	46	73	6.04	+2.9	1.44	21	10.6	s.	39	w.	4	2	12	17	7.0	T	.0	5
Toledo [1]	628	5	47	990.5	1,013.5	−1.7	55.3	−2.7	80	12	65	29	10	45	35	304	45	72	5.15	+2.0	1.05	17	9.4	sw.	29	sw.	1	6	6	19	6.6	T	.0	7
Fort Wayne [1]	857	5	33	982.4	1,013.5	−1.7	55.9	−2.7	80	12	65	29	10	45	35	304	45	72	4.77	+1.3	1.12	13	11.7	sw.	40	sw.	29	4	10	17	6.6	T	.0	6
Detroit [1]	730	5	78	986.8	1,013.2	−2.0	53.8	−3.3	80	12	66	27	9	46	33	285	47	76	4.77	−.3	.73	16	9.2	s.	30	s.	29	4	9	18	6.9	T	.0	6
							53.8	−3.1	80	12	62	31	9	45	30	352	44	73	6.97	+3.8	1.93	19	10.1	sw.	34	nw.	29	4	8	19	7.1	T	.0	9
UPPER LAKES																																		
Alpena	609	5	89	990.2	1,012.5	−2.4	48.5	−4.0																										
Escanaba	612	51	72	990.5	1,013.2	−2.0	46.4	−4.1	82	12	54	25	9	39	35	574	38	74	4.04	+.8											7.1			
Grand Rapids [3]	707	70	244	987.5	1,013.5	−1.4	45.4	−4.2	78	12	52	25	9	38	36	602	38	76	3.77	+.7	.92	18	11.6	nw.	30	e.	2	4	9	18	7.3	1.9	.0	4
Lansing [2]	878	5	90	981.0	1,013.5	−1.4	52.8	−5.2	81	12	62	27	9	44	29	381	42	75	3.98	+1.0	1.10	17	11.1	s.	33	n.	13	4	10	17	7.2	1.6	.0	0
Marquette	734	44	73	985.8	1,012.9	−2.3	52.1	−4.8	79	12	62	26	9	42	32	399	42	76	4.98	+1.5	1.59	19	11.6	sw.	33	sw.	12	4	9	18	7.0	T	.0	5
Sault Sainte Marie [1]	614	11	52	989.8	1,012.5	−2.7	44.2	−4.8	82	31	52	25	8	37	38	650	36	76	5.22	+1.8	1.00	22	8.7	sw.	26	w.	26	4	7	20	7.2	T	.0	5
Chicago [1]	673	5	36	989.2	1,013.5	−1.4	43.3	−4.9	72	18	52	23	10	35	38	674	35	77	3.08	+.1	.99	16	8.8	n.	31	sw.	31	3	6	22	7.6	2.9	.0	1
Green Bay	617	5	32	990.5	1,013.2	−1.0	53.8	−4.0	89	15	64	30	10	44	44	359	44	74	4.42	+1.8	.95	15	11.7	nw.	38	nw.	26	3	4	24	7.9	4.6	.0	1
Milwaukee [1]	681	33	66	988.5	1,013.5	−1.1	49.9	−5.4	79	12	59	25	9	40	31	481	40	72	3.97	+.5	.71	20	9.8	s.	32	w.	15	5	8	18	6.9	T	.0	1
Duluth [2]	1,133	5	47	971.6	1,013.2	−1.4	47.4	−2.7	80	12	59	28	9	41	35	474	42	76	4.43	+.9	1.75	17	9.0	s.	29	s.	31	4	10	17	7.1	3.0	.0	6
								+.1	80	31	57	25	8	38	32	549	34	66	4.35	+1.0	1.09	18	12.7	n.	37	ne.	29	3	9	19	7.0	T	.0	3
NORTH DAKOTA																			2.17	−1.1	.86	11	11.9	ne.	36	sw.	11	8	11	12	5.9	T	.0	2
Fargo [1]	940	6	47	979.0	1,013.5	.0	49.9	−3.5																										
Bismarck [1]	1,677	5	43	953.6	1,014.2	+.3	50.0	−5.1	81	17	62	26	28	39	45	465	37	61	1.22	−1.1											6.0			
Devils Lake	1,478	11	44	960.4	1,014.6	+.7	51.3	−1.7	84	30	65	23	28	38	57	423	35	66	1.33	−1.6	.40	11	13.9	n.	42	nw.	3	6	12	13	6.1	.0	.0	2
Grand Forks [1]	832	4	41	983.4	1,014.2	+.3	48.6	−4.0	78	16	61	21	8	36	44	508	32	58	1.23	−.8	.39	10	12.4	nw.	43	nw.	1	7	16	8	5.8	.0	.0	2
Williston	1,878	42	50	946.5	1,013.9	+.7	50.8	----	80	17	61	22	8	36	45	503	36	66	1.33	----	.37	9	9.7	nw.	31	nw.	3	6	13	12	6.4	T	.0	2
								−3.2	82	2	63	21	28	39	43	440	34	56	1.41	−.6	.53	10	----	n.	----	----	----	7	8	16	----	.4	.0	2
UPPER MISSISSIPPI																						9	8.7	nw.	28	nw.	3	7	13	11	5.8	.0	.0	2
Minneapolis-St. Paul [1]	919	43	74	979.3	1,012.9	−.3	57.2	−4.1																										
La Crosse [1]	714	5	29	987.1	1,013.2	−.7	53.5	−4.2	81	31	64	33	8	43	31	359	40	70	4.10	+.1											6.2			
Madison [2]	974	70	78	982.1	1,013.9	−.7	52.2	−5.7	80	18	62	27	9	42	34	402	42	64	2.57	−1.1	1.07	10	10.9	nw.	34	s.	11	3	12	16	6.9	.2	.0	2
Charles City	1,015	10	51	977.3	1,014.2	.0	52.6	−5.0	78	12	64	32	9	42	34	391	42	70	3.40	−.4	.63	16	9.1	nw.	33	nw.	26	6	10	15	6.6	T	.0	4
Moline [1]	606	6	50	991.9	1,014.2	−.4	53.2	−4.6	80	18	64	31	9	43	38	364	42	71	4.20	+.4	1.76	17	10.9	sw.	33	nw.	4	5	10	16	6.7	.6	.0	5
Dubuque	699	60	79	988.2	1,013.5	−.7	56.5	−3.8	79	18	66	33	9	47	36	276	46	71	3.70	−.2	1.10	16	10.3	nw.	38	nw.	1	8	7	16	6.3	.0	.0	6
Burlington [1]	702	4	36	988.8	1,014.2	+.3	54.9	−5.4	80	18	64	34	29	46	31	316	44	69	4.59	+.4	2.38	14	5.9	nw.	26	nw.	1	7	11	13	5.9	T	.0	3
Cairo	357	5	99	1,002.0	1,014.6	.0	57.0	−5.6	82	14	68	34	9	46	38	257	47	74	5.51	+1.4	1.62	13	10.5	nw.	40	nw.	1	10	8	13	5.9	.0	.0	7
Peoria [1]	609	6	26	992.2	1,014.2	−.7	57.1	−2.3	88	16	77	45	10	57	30	61	----	----	5.71	+2.0	1.25	11	8.6	s.	34	sw.	29	6	13	12	6.1	.0	.0	7
Springfield, Ill. [2]	636	5	191	991.2	1,014.6	+.4	56.8	−3.9	83	15	67	33	9	47	31	263	46	72	4.63	+.6	.95	16	10.2	nw.	34	w.	28	6	10	15	6.5	.0	.0	9
St. Louis [2]	568	35	303	993.9	1,014.2	.0	61.1	−2.1	84	12	71	37	9	51	32	159	48	72	5.11	+.7	1.62	15	11.8	n.	31	nw.	28	8	8	15	5.9	.0	.0	10
							64.0	−3.0	86	15	74	40	9	54	30	115	----	63	2.43	−1.9	1.14	14	12.0	s.	49	sw.	15	13	7	11	----	.0	.0	7
MISSOURI VALLEY																																		
Columbia, Mo. [3]	784	6	66	986.1	1,014.2	−.4	58.9	−3.0																										
Kansas City [1]	963	39	76	987.1	1,014.6	+1.1	62.0	−3.0	88	14	73	39	29	51	44	143	47	66	3.30	−.7											5.8			
St. Joseph [1]	967	11	49	979.7	1,014.6	+1.1	61.9	−2.9	89	14	72	35	29	52	34	127	48	64	3.24	−1.2	1.20	11	7.4	w.	30	w.	1	10	16	5	4.8	.0	.0	7
Springfield, Mo. [1]	1,324	5	67	967.2	1,014.6	+.4	60.2	−4.0	91	14	72	35	29	49	40	169	46	68	4.26	+.3	1.12	12	10.4	n.	36	nw.	1	8	11	12	5.9	.0	.0	6
Topeka [2]	987	65	87	979.0	1,014.2	+1.0	62.0	−1.7	88	14	73	38	29	51	43	131	50	70	3.45	−1.2	1.24	10	8.3	n.	33	nw.	2	13	8	10	4.8	T	.0	7
Lincoln [2]	1,189	11	81	971.6	1,013.9	+1.0	61.7	−2.6	90	3	73	34	29	51	43	131	48	70	4.40	−.8	2.06	10	11.7	s.	44	w.	1	7	12	12	6.0	.0	.0	7
Omaha [1]	1,105	5	68	974.9	1,014.6	+1.1	59.0	−2.7	89	14	70	33	29	48	42	198	44	66	2.40	−2.1	.48	13	8.8	n.	32	n.	28	9	11	11	6.3	.0	.0	10
Valentine	2,598	46	54	923.1	1,014.9	+1.4	58.4	−4.0	88	14	69	33	29	48	40	214	44	64	3.37	−.7	1.93	16	9.8	n.	42	nw.	1	11	7	13	5.7	T	.0	6
Sioux City [1]	1,138	5	40	973.2	1,014.2	+1.0	54.2	−2.0	83	14	67	26	29	41	43	340	38	60	4.65	+.9	1.22	17	11.5	s.	41	nw.	1	8	10	13	6.1	T	.0	9
Huron [1]	1,301	5	41	967.2	1,014.2	+.3	53.6	−4.1	86	14	68	27	29	43	42	293	42	66	3.14	+.3	1.06	11	9.9	n.	33	n.	25	8	11	12	6.1	.0	.0	10
								−2.8	83	14	68	24	29	40	43	353	39	64	3.35	−.7	1.27	13	10.5	n.	40	n.	1	7	12	12	6.1	.0	.0	6
NORTHERN SLOPE																			.75	−2.2	.31	6	13.1	nw.	46	nw.	1	8	10	13	5.8	T	.0	4
Billings [1]	3,570	16	40	890.3	1,013.2	.0	54.4	+1.3																										
Havre	2,507	11	67	925.5	1,014.2	+1.0	56.0	−.1	87	2	68	27	28	44	37	276	39	59	1.61	−.5											6.7			
Helena [1]	4,124	5	43	872.7	1,013.9	.0	54.8	+1.4	87	2	68	24	28	42	39	324	33	56	1.09	----	.85	7	10.6	sw.	42	nw.	21	2	18	11	6.8	.0	.0	3
Missoula [1]	3,205	4	32	900.8	1,014.2	−1.0	54.1	+2.5	86	2	68	28	28	40	43	342	36	56	.15	−1.9	.06	6	9.6	nw.	33	w.	2	3	7	21	7.5	.0	.0	2
Kalispell	2,973	48	56	910.3	1,012.9	−.6	56.6	+4.4	84	7	71	33	28	43	39	262	37	54	.48	−1.5	.27	5	9.6	w.	33	se.	8	4	11	16	7.0	.0	.0	2
Miles City [1]	2,371	5	78	929.9	1,013.9	.0	55.0	+3.6	81	7	67	31	28	43	36	314	40	60	1.50	−.2	.51	6	8.0	nw.	30	n.	21	4	14	13	6.6	.0	.0	5
Rapid City [1]	3,259	5	63	900.1	1,013.5	−.7	54.2	----	86	2	68	24	28	41	43	335	36	56	1.79	+.3	1.30	4	6.1	w.	25	sw.	2	2	19	10	6.4	.0	.0	5
Cheyenne [1]	6,094	5	40	812.4	1,013.2	−1.2	52.8	−1.2	80	2	66	23	29	40	49	375	38	63	.66	----	.50	4	----	nw.	----	----	----	----	2	13	16	6.4	.0	.0	2
Lander [1]	5,352	60	68	834.1	1,013.2	+1.7	49.8	−.5	82	2	62	16	29	37	42	478	37	70	1.14	−1.8	.49	11	15.3	nw.	52	nw.	11	5	14	12	6.8	.0	.0	4
Sheridan [1]	3,790	5	38	883.2	1,012.9	+.4	54.0	+2.8	85	4	68	24	29	40	40	350	36	58	2.19	−.2	1.03	14	11.0	nw.	36	w.	18	2	11	18	7.0	6.6	.0	9
North Platte [2]	2,821	11	51	915.3	1,013.5	.0	54.2	+2.2	88	2	67	28	28	41	45	335	38	60	3.75	+1.5	1.79	9	7.3	sw.	42	sw.	13	2	18	11	6.3	10.2	.0	8
								+.3	57.0	−1.7	86	3	69	28	29	45	39	258	43	67	2.59	−.1	1.44	10	8.7	nw.	37	nw.	25	4	16	11	6.5	.6	.0	7
																			2.40	−.4	1.10	10	7.7	s.	24	n.	1	6	12	13	6.4	.5	.0	7

See footnotes at end of table.

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS FOR MAY 1947—Continued

District and station	Elevation of instruments: Barometer above sea level	Elevation of instruments: Thermometer above ground	Elevation of instruments: Anemometer above ground	Pressure: Station	Pressure: Sea level	Pressure: Departure from normal	Temperature of the air: Mean	Temperature of the air: Departure from normal	Temperature of the air: Maximum	Temperature of the air: Date	Temperature of the air: Mean maximum	Temperature of the air: Minimum	Temperature of the air: Date	Temperature of the air: Mean minimum	Temperature of the air: Greatest daily range	Total degree days	Mean temperature of the dew point	Mean relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: Days with 0.01 inch or more	Wind: Average hourly velocity	Wind: Prevailing direction	Wind: Maximum velocity: Miles per hour	Wind: Maximum velocity: Direction	Wind: Maximum velocity: Date	Average cloudiness, tenths: Clear days	Average cloudiness, tenths: Partly cloudy days	Average cloudiness, tenths: Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month	Number of days with thunderstorms
MIDDLE SLOPE	Ft.	Ft.	Ft.	Mb.	Mb.	Mb.	°F.	°F.	°F.		°F.	°F.		°F.	°F.		°F.	%	In.	In.	In.		Mi.								0–10	In.	In.	
							61.3	−1.8										69	4.72	+.5											5.9			
Denver [2]	5,292	106	113	837.1	1,012.9	+1.0	56.2	.0	84	5	67	32	28	45	36	292	40	64	4.18	−2.0	1.60	14	7.6	s.	30	w.	18	7	10	14	6.7	1.0	.0	8
Pueblo [1]	4,690	5	36	855.4	1,012.5	+1.3	59.0	+.1	94	4	74	36	29	44	48	203	40	62	2.99	+1.4	1.94	11	8.4	se.	35	w.	31	6	16	9	6.0	.0	.0	11
Concordia	1,392	50	58	964.8	1,014.6	+1.1	59.2	−4.0	89	3	69	32	29	50	43	194	46	67	3.00	−1.2	1.15	13	8.2	s.	29	nw.	1	12	7	12	5.5	.0	.0	6
Dodge City [1]	2,509	5	58	926.2	1,013.5	+.6	59.8	−3.7	90	3	70	34	29	49	39	177	50	74	4.01	+1.1	.98	15	15.0	se.	42	ne.	27	8	8	15	6.0	.0	.0	12
Wichita [1]	1,358	6	64	965.8	1,013.9	+1.0	62.6	−2.5	88	14	73	37	29	52	40	114	50	70	4.69	+.2	1.08	15	14.0	se.	57	se.	15	10	7	14	6.0	.0	.0	16
Oklahoma City [2]	1,214	10	47	970.5	1,013.2	+.7	66.7	−1.0	92	4	78	39	29	56	42	58	56	73	7.92	+3.0	2.65	10	9.0	s.	37	w.	31	11	7	13	5.5	.0	.0	9
Tulsa [1]	674	10	60	989.5	1,013.5	.....	65.4	−1.8	89	14	76	40	29	55	40	61	54	72	6.26	+1.2	1.47	10	10.7	se.	42	w.	15	11	9	11	5.5	.0	.0	14
SOUTHERN SLOPE																																		
							70.1	+.3										62	3.24	+.6										5.4			
Abilene [1]	1,738	4	59	951.6	1,011.9	+.4	71.1	+.5	101	4	84	44	29	59	43	23	55	64	4.05	+.1	1.95	8	15.6	s.	44	nw.	22	9	9	13	5.6	.0	.0	13
Amarillo [1]	3,676	5	42	887.9	1,012.2	+.3	62.8	+.7	96	4	75	36	29	51	41	129	51	72	4.59	+1.8	1.34	12	14.9	s.	66	nw.	14	9	11	11	5.5	.0	.0	11
Del Rio	960	63	71	977.7	1,010.2	+.4	77.2	+.2	98	4	88	57	21	67	36	0	62	66	2.62	−.3	1.43	8	10.3	se.	40	w.	10	9	7	15	5.8	.0	.0	6
Roswell	3,566	75	85	890.6	1,010.5	+.3	69.3	−.1	101	4	84	40	29	55	49	27	42	48	1.71	+.6	1.16	5	9.1	s.	38	ne.	20	11	12	8	4.6	.0	.0	5
SOUTHERN PLATEAU																																		
							72.1	+4.0										35	.43	+.1										3.9			
El Paso [1]	3,778	29	85	883.5	1,008.5	.0	73.5	+3.5	98	6	88	51	1	60	39	1	36	32	.68	+.4	.68	2	10.8	se.	43	nw.	22	18	9	4	3.6	.0	.0	4
Albuquerque [1]	5,314	5	45	835.8	1,008.1	−1.0	67.0	+3.7	94	4	82	44	12	52	38	48	33	36	.48	−.1	.24	5	10.6	sw.	50	n.	23	15	9	7	4.5	.0	.0	4
Flagstaff	6,907	36	51	790.4	.....	.....	55.4	+4.7	88	3	72	29	12	38	48	300	29	45	.98	+.1	.61	5	.....	sw.	..	.....	..	8	14	9	5.3	T	.0	6
Phoenix [2]	1,107	39	87	969.9	1,008.1	−.4	79.7	+4.7	109	3	94	53	11	65	44	0	43	35	.38	+.3	.36	3	7.1	w.	26	sw.	27	19	6	6	3.8	.0	.0	3
Tucson [1]	2,555	5	39	922.5	1,008.5	−.3	76.8	+3.6	105	3	92	50	15	62	42	2	36	27	.04	−.1	.04	1	.....	sw.	..	.....	..	15	11	5	4.0	.0	.0	0
Yuma	142	9	54	1,003.1	1,007.8	−1.0	80.2	+4.0	115	3	96	53	11	64	48	0	45	36	T	.0	T	.0	6.3	s.	23	w.	10	23	7	1	2.1	.0	.0	0
MIDDLE PLATEAU																																		
							61.5	+6.1										44	1.20	+.2										4.8			
Reno [1]	4,527	20	52	860.8	1,012.5	−.4	60.3	+7.4	90	21	79	34	12	41	49	160	36	50	.30	−.3	.21	6	8.2	w.	31	nw.	27	13	6	12	5.0	T	.0	4
Winnemucca	4,339	5	56	865.9	1,011.5	−1.7	62.0	+8.1	92	2	79	35	11	45	50	129	32	40	1.40	+.5	.49	7	7.7	ne.	26	se.	29	12	7	12	5.1	.0	.0	2
Modena	5,473	10	46	831.0	1,009.5	−.7	58.2	+4.7	88	3	76	34	11	41	47	216	.....	...	2.03	+1.2	1.65	4	10.0	sw.	45	sw.	22	15	13	3	3.6	T	.0	3
Salt Lake City [1]	4,227	32	58	864.9	1,010.8	+1.7	62.8	+7.1	91	2	76	42	1	49	41	134	39	49	1.88	+.1	.76	8	9.2	se.	35	sw.	30	14	8	9	4.7	.0	.0	7
Grand Junction [1]	4,602	60	68	857.4	1,010.5	+.3	64.3	+3.2	93	4	79	39	29	50	40	79	32	36	.41	−.4	.20	5	9.0	se.	40	sw.	27	9	10	12	5.8	.0	.0	2
NORTHERN PLATEAU																																		
							61.6	+5.9										51	.59	−.8										5.6			
Baker [2]	3,471	36	54	894.0	1,013.9	−1.7	57.9	+6.2	90	26	73	31	14	43	43	230	38	58	.51	−1.0	.43	5	6.1	n.	24	nw.	10	8	10	13	6.2	.0	.0	6
Boise [1]	2,739	5	49	916.7	1,011.5	−2.4	62.2	+6.1	95	6	76	39	10	48	44	146	38	46	1.02	−.4	.52	6	10.1	nw.	33	nw.	8	11	10	10	5.6	.0	.0	3
Pocatello [1]	4,478	5	31	860.8	1,011.9	−.3	58.8	+5.8	88	7	73	36	29	45	42	207	35	48	1.30	−.4	.97	6	10.2	sw.	34	sw.	8	9	13	9	5.5	T	.0	4
Spokane [1]	1,929	27	42	945.1	1,013.5	−1.1	59.6	+4.1	89	25	74	38	22	45	40	185	40	54	.31	−1.1	.20	4	7.7	ne.	34	w.	20	7	14	10	6.0	.0	.0	2
Walla Walla	991	57	65	977.7	1,012.9	−2.0	66.0	+6.4	96	26	78	44	10	54	38	63	.....	...	.37	−1.2	.33	3	5.3	s.	20	ne.	27	10	10	11	5.1	.0	.0	2
Yakima [1]	1,076	58	67	974.6	1,013.2	−1.7	65.0	+6.8	97	26	82	34	14	48	47	71	40	47	.03	−.4	.03	2	.....	nw.	..	.....	..	9	11	11	5.4	.0	.0	1
NORTH PACIFIC COAST																																		
							58.8	+4.1										72	1.01	−1.3										6.1			
North Head	211	5	55	1,010.2	1,017.6	−1.0	54.0	+3.1	86	23	59	44	3	49	35	348	48	84	.63	−2.3	.17	7	14.5	nw.	40	nw.	9	3	11	17	7.1	.0	.0	0
Seattle [2]	125	90	321	1,012.2	1,016.9	−.7	60.4	+3.8	86	25	70	43	10	51	32	163	47	68	.60	−1.3	.38	10	7.7	n.	27	s.	18	8	6	17	6.4	.0	.0	1
Tacoma	194	172	201	1,009.8	1,016.6	−1.0	58.8	+4.7	84	24	68	41	10	50	27	210	.....	...	.16	−2.0	.09	5	8.4	n.	30	w.	26	12	8	11	5.1	.0	.0	1
Tatoosh Island	86	9	61	1,014.6	1,018.0	.0	52.0	+2.4	65	23	56	45	14	48	19	400	48	89	2.27	−1.7	1.12	8	11.4	s.	45	s.	26	4	6	21	7.5	.0	.0	0
Medford [1]	1,329	29	58	967.5	1,014.9	−1.7	62.2	+4.0	94	23	78	33	10	46	49	129	43	60	.91	−.2	.32	8	.....	nw.	..	.....	..	11	8	12	5.7	.0	.0	2
Portland, Oreg. [3]	154	68	106	1,010.8	1,016.6	−1.0	63.1	+6.2	93	26	73	46	17	53	33	109	48	66	.87	−1.3	.58	5	5.7	nw.	19	w.	9	7	11	13	6.0	.0	.0	0
Roseburg	510	45	76	998.0	1,016.6	−1.4	60.8	+4.8	94	23	74	37	10	47	47	154	46	65	1.63	−.3	.94	6	4.4	n.	20	n.	10	10	12	9	5.2	.0	.0	0
MIDDLE PACIFIC COAST																																		
							63.5	+3.9										64	.47	−.6										4.8			
Eureka	60	72	88	1,014.9	1,017.3	−1.7	53.9	+1.9	75	26	60	42	11	48	26	346	48	82	.17	−1.6	.11	3	7.8	n.	30	n.	18	6	10	15	6.2	.0	.0	0
Red Bluff [1]	353	5	26	999.0	1,011.5	.....	73.2	+6.9	104	21	87	47	13	60	40	14	42	42	.87	−.3	41	4	9.1	se.	29	ne.	9	15	7	9	4.7	.0	.0	0
Sacramento [2]	66	92	115	1,009.5	1,011.9	−1.6	69.2	+5.9	102	20	84	46	13	55	40	24	49	58	.17	−.6	.11	3	7.6	sw.	29	nw.	10	20	5	6	3.4	.0	.0	0
San Francisco [2]	155	112	132	1,008.5	1,014.2	−1.4	57.8	+1.0	86	1	63	48	20	52	26	231	48	76	.67	−.1	.35	3	10.5	w.	27	w.	8	14	8	9	4.7	.0	.0	0
SOUTH PACIFIC COAST																																		
							67.0	+3.4										64	.16	−.2										5.3			
Fresno [1]	327	5	34	999.3	1,011.2	−2.0	73.0	+5.8	102	20	90	47	12	56	41	4	46	46	.20	−.2	.16	2	7.6	nw.	26	nw.	9	17	6	8	4.0	.0	.0	0
Los Angeles	338	223	250	1,001.7	1,013.9	−.3	64.0	+1.8	92	2	72	50	13	56	31	67	53	72	.12	−.3	.06	4	6.2	w.	19	w.	31	8	15	8	5.5	.0	.0	3
San Diego [1]	87	20	55	1,010.8	1,013.9	+.7	63.9	+2.6	82	2	70	54	28	57	25	45	54	74	.17	−.2	.09	3	7.7	sw.	26	sw.	10	4	16	11	6.3	.0	.0	2
ALASKA																																		
Anchorage [1]	132	6	44	1,005.8	1,010.8	.....	46.6	+1.6	82	28	56	22	3	37	32	572	34	63	.57	+.1	.17	9	6.6	s.	26	s.	13	2	7	22	7.9	1.7	.0	0
Fairbanks [1]	455	5	63	992.2	1,009.1	.....	48.8	+1.0	90	28	61	16	3	36	45	512	31	54	.36	−.3	.29	5	8.1	ne.	24	n.	31	4	11	16	6.8	.1	.0	0
Juneau [1]	80	6	30	1,012.5	1,015.6	.....	47.7	−1.0	82	27	57	30	6	38	40	540	38	71	3.25	+.9	.77	17	7.3	n.	29	se.	14	8	3	20	6.6	.0	.0	0
Nome	22	10	75	1,006.8	1,007.4	.....	38.6	+4.5	68	30	46	10	1	31	33	807	33	81	.66	.0	.38	10	13.5	e.	36	e.	3	2	10	19	7.4	1.4	T	0
Barrow	29	5	27	1,018.0	1,018.3	.....	17.0	−2.6	36	24	23	−11	1	11	23	1,488	17	97	.06	−.1	.03	3	13.7	e.	35	e.	12	6	7	18	7.1	.6	7.5	0
Bethel	28	5	31	1,004.1	1,005.4	.....	42.3	+2.0	74	31	50	21	1	34	23	706	35	77	.62	−.3	.23	11	8.6	s.	34	.....	23	0	12	19	7.8	2.3	.0	0
Cordova	45	5	32	1,011.5	1,013.2	.....	44.1	.....	77	28	52	27	16	36	32	650	40	86	7.64	.....	1.81	22	.....	e.	25	se.	23	2	4	25	8.4	1.3	.0	0
Gambel	32	5	32	1,005.8	1,006.8	.....	31.1	+1.4	50	28	35	10	1	28	17	1,051	29	93	.44	−.1	.....	9	15.0	ne.	39	e.	3	0	4	27	9.0	.2	.0	0
Ketchikan	25	69	90	1,015.6	1,016.3	.....	50.2	+1.6	80	27	58	35	4	42	34	460	41	74	6.37	−2.2	1.69	13	6.8	se.	24	e.	11	8	4	19	6.7	.0	.0	0
Kotzebue	20	5	31	1,008.8	1,009.5	.....	37.4	+7.3	74	29	45	5	3	30	36	.....	31	80	.25	−.1	.....	6	12.0	e.	31	w.	30	3	12	16	7.0	.7	.0	0
McGrath	341	5	31	995.3	1,007.8	.....	45.0	+1.0	80	28	55	9	3	35	37	618	34	68	.53	−.7	.21	10	.....	s.	24	s.	23	1	7	23	7.8	1.0	.0	0
Northway	1,718	5	32	947.2	1,010.2	.....	47.2	+1.3	88	28	60	18	3	35	43	558	32	59	.37	−.1	.36	6	6.0	nw.	28	.....	12	4	7	20	7.3	.5	.0	1
HAWAII																																		
Honolulu	38	86	100	1,018.0	1,018.6	+1.3	74.4	−.4	82	31	79	66	4	70	12	0	65	72	2.79	+1.0	1.64	11	10.4	ne.	30	ne.	2	9	16	6	5.0	.0	.0	0

[1] Data are airport records.
[2] Barometric data (adjusted to old city elevation) and hygrometric data from airport; otherwise city office records.
[3] Observations taken bihourly.
[4] Pressure (adjusted to old city elevation), temperature, and hygrometric data from airport; otherwise city office records.
[5] Temperature and precipitation from city records, other data from airport.

NOTE.—Except as indicated by notes [1], [3], [4], and [5] data in table are city office records.

SEVERE LOCAL STORMS FOR MAY 1947

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the United States Meteorological Yearbook]

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
	May 1947						
Dresden, Tenn.	1	Near 6 a. m.		0	(1)	Wind	Damage to trees and roofs.
Milan, Tenn.	1	Near 6:20 a. m.		0	(1)	Wind and hail	Thunderstorm with hail. Considerable damage to buildings, power-lines, crops.
Clarksville, Tenn.	1	Near 7:00 a. m.	[2] 1	0	$75,000–100,000	Severe wind	Damage confined to path 1 mile wide. Storm moved south-southwest to north-northeast. No indication of circular movement.
Catoosa, Whitfield, and Murray Counties, Ga.	1	About 11:30 a. m.		0	10,000	Wind and hail	High winds at Ringgold upset small school building, injuring 15 persons. Considerable damage was done in scattered areas throughout the 3 counties, chiefly near Ringgold, Dalton, and Varnell, to transmission lines and trees. Hail, mostly the size of marbles, broke a few window-panes.
Asheville, N. C., and nearby communities.	1	2 p. m.		0	(2)	Wind, hail, and rain	Most damage from wind, which averaged 48 m. p. h., for 5 minutes; gusts estimated at 60 m. p. h., or more. Hail reported ¼ inch in diameter. A number of trees were uprooted, some falling across houses, damaging roofs. Power lines broken, awnings ripped, plate glass windows broken, and a main hangar at an air park stripped of metal siding.
Central section, Butler to Perry, Ga.	1	3 to 4 p. m.		0	[4] $25,000	Hail, heavy rains, and winds.	Moderate to heavy hail, some as large as 1 inch in diameter, with jagged edges, fell in scattered areas of Taylor, Crawford, Macon, Peach, and Houston Counties, causing heavy losses to peaches, cotton, corn, and grain. Hail more or less general over most of State south and east of this area, with no appreciable damage except between Butler, Perry, and Ben Hill Counties.
Statesville, N. C.	1	Late afternoon		0	(3)	Wind and rain	Power and communication services were disrupted; 2 people hospitalized; number of buildings unroofed; and large trees blown down.
Northeast Ware Co., Waycross, Ga.	1	7 p. m.	(5)	0	3,000	Wind and hail	High winds unroofed several small buildings and blew down some trees; falling trees broke telephone and power lines and damaged the side of a store. Hail broke windowpanes and caused some crop damage.
Brunswick, Ga.	1	8 p. m.	(7)	0	1,000	Wind (tornadic)	Flash windstorm, with characteristics of tornado, struck a portion of Brunswick Airport. One plane was severely damaged.
Fernandina, Fla.	1	8:20–8:30 p. m.		0	0	Squall from northwest.	Wind velocity estimated, 50–60 m. p. h.
Little Rock, S. C.	1	Night		0	10,000	Electrical	Home struck by lightning burned.
Great Falls, Mont.	2	3:20–4 p. m.		0		Dust	Visibility reduced to 6 miles. Extreme wind velocity 57 m. p. h.
Grenville, N. Mex. and vicinity.	5	2 p. m.	50	0		Tornado	Struck open fields, no damage. Length of path 2 miles.
Grady, N. Mex. and vicinity.	6	4:30–6:30 p. m.		0	50,000	Heavy hail and wind.	Most of damage to wheat fields; some windows broken and some wind damage to buildings.
Tucumcari, N. Mex.	6	P. m.		0		Lightning	High school slightly damaged.
Hockley, Lubbock, Hale, and Floyd Counties, Tex.	6	7:45 p. m. to midnight.	[3] 60	0	173,000	Hail and wind	Wheat crop damage, $150,000; damage to buildings, $23,000. 5 persons were injured.
Crabapple, Ga. (near) between Roswell and Alpharetta in Fulton County.	8	About 1 p. m.	(7)	0	5,000	Small tornado	Windstorm, described as "twister", struck a local area on Ebenezer Road near Crabapple Community. A barn destroyed; a home twisted off its foundation; and at least 20 trees blown down.
About 10 miles north of Miami Airport.	8	About 5:01 p. m.		0		do	No damage reported.
Sacramento and upper San Joaquin Valleys of California.	8, 9, and 10			0	1,330,000	High, dry, northerly winds.	Considerable cotton had to be replanted; some damage to rice, and much damage to fruit, vegetables, and other crops.
Southwest of Great Falls, Mont.	9	Afternoon		0		Light hail	Greenhouse southwest of Great Falls reported about 100 panes of glass broken; damage to vegetation nominal.
Carrizo Springs, Tex.	10	9 p. m.	[2] 1	0	(1)	Hail	Considerable damage to fruit trees and vegetables; slight damage to roofs and windows.
Manitou Springs, Colo.	10	P. m.		1	100,000	Flood	Heavy local rains combined with rapid snow melt to cause flood along Fountain Creek. Several bridges and U. S. Highway No. 24 washed out. Homes and business establishments in Manitou Springs were flooded and several automobiles buried by debris.
Jackson County, Okla.	11	4:30 p. m.	[2] ¼	0	20,000	Tornado	3 persons injured. Storm originated 6 miles west of Eldorado along Red River and moved northward for about 7 miles.
Odessa, Tex.	11	do	880	0	100,000	do	Several oil derricks and small buildings destroyed; considerable damage to larger buildings.
Lenorah, Tex.	11	6 p. m.	880	1	150,000	do	Cotton and maize in path completely destroyed. 6 houses, 2 cotton gins, and a store building demolished. 14 persons injured.
Blaine County, Okla.	11	8:30 p. m.	[2] ⅛	0	56,500	do	First damage 1 mile west of Watonga; storm moved northeast to Hitchcock. Path 15 miles long; 45 homes were damaged, 1 completely destroyed. 5 injuries in Hitchcock.
Elk and Wilson Counties, Kans.	12	4:30 p. m.	(5)	0	1,000	do	Storm path extended from 10 miles southwest of Fall River to within 2 miles of city. Chief damage to small buildings and farm machinery. A funnel-shaped cloud, occasionally touching ground, was also reported southeast of Fall River on same evening.
McCurtain County, Okla.	12	5:30 p. m.	[2] ¼–½	0	13,000	High wind, hail	Most damage in Idabel, mostly hail damage to roofs, buildings.
Custer County, Okla.	12	7 p. m.		0	75,000	Electrical	Clinton airport hangar struck by lightning. Hangar and 10 airplanes destroyed by fire.
Tillman County, Okla.	12	Evening	[2] 5	0	300,000	Hail, high wind	Hail damage to wheat crop and minor damage to buildings. Wind damage to aircraft. Several paths of hail in county.
Findlay, Ohio.	13	4 p. m. E. S. T.	(5)	0	[8] 500,000	Tornado	Storm moved from southwest to northeast just north of the center of city. 17 persons injured. Chief damage at trailer camp where 45 trailers were destroyed or damaged. Many trees uprooted. Heavy hailstorm preceded tornado.
Columbus, Ohio, and vicinity.	13	6 p. m. E. S. T.		0		High winds and heavy rain.	Gusts of 65 m. p. h; 1 inch rain fell in about an hour Streets flooded, wires blown down, and 2 homes struck by lightning.
Tulsa County, Okla.	13–14	8:27 p. m.–3:02 a. m.	[2] ½	0	37,000	High wind	Damage to aircraft at Tulsa Airport.
Oklahoma County, Okla.	13–14	11 p. m.–1 a. m.		0	20,000	High wind, rain	$10,000–15,000 damage to aircraft at Will Rogers Field. Property damage to trees, signs, buildings, windows, etc., in Oklahoma City area. Wind reported at 74 m. p. h., at Weather Bureau Airport Station at 11:51 p. m.
Hamilton County, Kans.	14	2:30–3:30 p. m.	[2] 6	0	260,000	Tornado and heavy hail.	Tornado funnel appeared 5 miles southwest of Syracuse, touched ground at intervals, ending 6 miles east of the city. Rural property damage, $10,000. Hail damage to wheat on 10–15,000 acres varied from 50 to near 100 percent loss.
Labette County, Kans.	14	5:30–6:15 p. m.		0	None	Tornado and hail	Funnel-shaped cloud visible about ½ mile above ground at Parsons, accompanied by a distinctive roaring sound. Hail fell for 15 minutes following passage: stones varied in size, but no reportable losses occurred due to a calm during the fall.
Montgomery County, Kans.	14	6 p. m.	[2] 2	0	3,500	Hail	Hailstones varied in size up to ½ inch. Chief damage to gardens and crops in and near Coffeyville.
Smith County, Kans.	14	7 p. m.	[2] 6	0	100,000	Wind and heavy hail	Chief hail damage to wheat in southern part of county. Scattered damage to rural buildings from high winds.

See footnotes at end of table.

SEVERE LOCAL STORMS FOR MAY 1947—Continued

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the United States Meteorological Yearbook]

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
	May 1947						
Osborne County, Kans.	14	7:30 p. m.	[2] 2½	0	$9,000	Wind and hail	Hail of marble size damaged wheat and gardens in northern part of county. Wind damaged scattered farm buildings.
Licking County, Ohio	14	9 p. m. E. S. T.		0	(3)	Tornado	Several farm buildings demolished. Trees twisted off.
Clovis, N. Mex., and vicinity	14	P. m.		0	30,000	Heavy hail	Crop damage estimated $15,000; $6,000 damage to planes at local airport; $5,000 to glass in green houses; $4,000, miscellaneous, to buildings and cars. Some hailstones reported weighed ½ pound.
Union County, N. Mex. (southeastern).	14	P. m.		0		do	Large stones broke windows and car tops, killed 5 lambs, and damaged crops.
Pebble Creek, Nebr. (near Dodge, Nebr.).	14–15	Night		0	26,365	Flash flood	Chief damage to railroad tracks and bridges. Some losses of grain and feed, buildings, and fences.
Butler County, Kans.	15	2:30 a. m.		0	10,000	High wind	Winds near tornadic proportions damaged buildings in Cassoday. Small buildings and silos in neaby rural areas blown down. Minor damage in El Dorado, where power lines were broken.
Kingfisher County, Okla.	15	5:30 p. m.	[2] 2	0	100,000	Hail	Hail damaged wheat crop in an area 2½ by 18 miles in Omega Community, Cooper and Reserve Townships.
Ellis County, Okla.	15			0	10,000	do	Approximately 500 acres of wheat in a local area 5 miles north of Fargo was destroyed.
Roswell, N. Mex., and vicinity.	16	8–9:30 a. m.	[2] 2	0	300,000	Heavy hail	About 9,000 acres of cotton and 500 acres small grains ruined. Path almost 30 miles long. Hail fell for more than 30 minutes and accumulated to a depth of 4–5 inches over much of the area.
Crestwood, Anchorage and Buechel, Ky., in lower Oldham and upper Jefferson Counties.	16	1:45 p. m.		0	2,000	Hail	Hailstones about the size of hen's eggs. Damage mostly to windows, trees, and auto tops.
Franklin County, Kans.	16	5:30 p. m.		0	None	Tornado	Lower part of cloud had a small rope-like appearance and appeared to lower on several occasions but never reached the ground. Funnel cloud visible northeast of Ottawa.
Northern and central Rusk County and southeastern Harrison Counties, Tex.	16	Afternoon	(1)	0	(1)	do	3 persons injured and a store building demolished.
Sumner and Sedgwich Counties, Kans.	16	2:30 p. m.		0	None	do	Tornado funnel sighted northwest of Wellington and again near Peck but was not known to have reached ground. Small funnel cloud also sighted at 2:59 p. m., 8 miles east of Wichita airport between 1,500 and 2,000 feet above ground.
Knox and Pike Counties, Ind.	16	6 p. m.	[2] 2	0	10,000	Hail	Stones up to 2 inches in diameter.
Eastern and southern sections of Louisville, Ky.	17	4 to 5 p. m.		0	1,000	Wind	Homes, industrial buildings, trees, and overhead wires damaged. Several persons suffered minor injuries from flying glass and debris. Maximum wind velocity recorded at Bowman Field, 55 m. p. h.
Southeastern Rusk County, Tex.	17	4:30 p. m.	880	0	150	Hail	Slight damage to tomatoes.
Fayette County, Ohio (western portion).	17	7:30 p. m. E. S. T.		0	5,000	High winds and heavy rain.	Most of damage to farm buildings.
Meeteetse, Wyo.	18	Afternoon		1		Thunderstorm	Rancher killed when struck by lightning.
Arcadia, Nebr. (southwest Valley County).	18	5 p. m.		0	4,500	Heavy hail	Most of damage to alfalfa, wheat, rye, gardens, fruit, and corn. Storm area 3 by 5 miles.
Scott, Gove, and Lane Counties, Kans.	18	7–7:45 p. m.	[2] 20	0	275,000	do	Wheat damaged in northeast Scott, southwest Gove, and northwest Lane Counties. Heaviest damage along Scott-Lane County line. Losses ranged as high as 80 to 100 percent in some localities.
Baltimore, Md.	18	7:42 p. m.		0	(1)	Hail and wind	Plate glass window of Anderson Motor Co. broken; wires and trees in Woodlawn section blown down.
Woods County, Okla.	18	10 p. m.	[2] 3½	0	10,000	Hail	Hail damaged wheat crop along 10-mile path near Farry.
Amistad, N. Mex., and vicinity.	19	P. m.		0		Heavy hail and wind	Hail driven by high wind damaged grains and fruit.
Harrisburg, Pa.	19	Evening		0	17,000	Lightning	Barns fired, 2,000 turkey poults destroyed, livestock and chickens lost, and $12,000 worth of farming equipment lost.
Towson, Md.	19	After 7 p. m.		0		Hail and wind twister	Lightning set fire to garage causing $2,500 damage to garage and automobile; a section of roof (tile) from the dormitory of Goucher College was ripped off; cellars flooded and dozens of trees were blown down.
Pikesville, Md.	19	After 7 p. m.		0	(1)	Hail and wind	Power wires were struck out; large tree fell over highway.
Gallipolis Ferry to Point Pleasant, W. Va.	20	5–6:30 p. m.	1,400	0	1,500	Local heavy rain	About 1 mile of railroad track washed out; damage to crops, about $500.
Shoemakersville, Pa.	21	4:45 p. m.	750	1		Tornado	Path 6 miles long from Centerport to east of Makersville. Buildings were damaged and trees and utility poles felled.
From Newman Grove, Nebr., southwest Madison County, to Humphrey, northeast Platte Co.	21	5:30–6 p. m.		0	250,000	Heavy, severe hailstorm.	Much damage to wheat and alfalfa. Considerable damage to composition roofs; some need replacing. Storm area 10 by 25 miles.
Americus, Ga.	21	9:30 a. m.	(7)	0	4,500	Small tornado	Storm of tornadic character struck southern suburbs of Americus, apparently lifting very soon after it struck, with indications of movement toward northeast. 1 home damaged and a barn unroofed.
Chatfield, Ohio	21	9:37 a. m., E. S. T.		0	[4] 15,000	Tornado	Storm moved from southwest to northeast. 1 person injured, trees uprooted, small buildings leveled, and many windows and roofs damaged. Greatest damage to timothy and clover seed when elevator roof was blown off.
Jacksonville, Fla.	22	3:15–3:30 p. m.		0	600	Thunderstorm squall	2 ships torn from moorings in St. Johns River and damage to docks.
Masonic Park, Colo.	23	3 p. m.		0	2,000	Wind	1 cabin was demolished, several others damaged. 20 large trees uprooted.
Greenwood, S. C., vicinity of.	24	8:30 p. m.		5		Thundersquall	5 men fishing in Lake Greenwood were drowned.
Decatur County, Kans.	25	2 p. m.	[3] ¼	0	3,000	Hail	About 15 percent damage to wheat in 2 small areas; one 10 miles southwest, the other 10 miles east of Oberlin.
Sheridan County, Kans.	25	4–4:30 p. m.	[3] 1	0	1,000	do	Spotted damage to wheat occurred along storm path in extreme northern part of County.
Hamburg and Lenhartsville, Pa.	25	5 p. m.		0		Tornado	Roofs of a Sunday school house and farmhouse ripped off. Trees uprooted, blocking traffic on the highway; a chicken house was demolished and telephone and electric service disrupted. The storm wreaked general havoc in a northeasterly path.
Near Clear Spring in Wash. County, Md.	25	Afternoon and evening.		0	(1)	Wind	Demolished barn and damaged three automobiles; blew down telephone, electric light, and telegraph wires.
Pawnee County, Kans.	25	6 p. m.	[2] 2	0	250,000	Heavy hail	Heaviest loss to wheat occurred southeast of Larned, with variable losses in other areas. Stones as large as hen's eggs fell a few miles north of Belpre but loss was not severe.
Milton, Del.	25	Afternoon and evening.		0	40,000	Thunderstorm and wind.	Two houses and a huge hay loader damaged; 11,000 chickens killed; trees ripped up.
Edwards County, Kans.	25	Evening	[3] 1½	0	20,000	Heavy hail	Damaged area was centered north of Arkansas River; losses on wheat fields were scattered and ranged up to 50 percent or more. Some hail stones were large enough to damage roofs.

See footnotes at end of table.

SEVERE LOCAL STORMS FOR MAY 1947—Continued

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the United States Meteorological Yearbook]

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
	May 1947						
Ellis County, Kans.	25	do		0	$300,000	Wind and heavy hail.	Greatest damage to wheat occurred in south-central section, with spotted damage in other parts. Many trees were damaged by wind in Hays, and driving rain ruined flowers and gardens.
Peach Glen, Pa.	25	During night		0	200,000	Lightning	Vinegar plant of National Fruit Products Co. destroyed.
Hawk Springs, Wyo.	26	Afternoon		1		Thunderstorm	Rancher killed when struck by lightning.
Rock Springs, Wyo.	26	do		0	(10)	Hail	Damage confined to flowers, trees, and shrubs.
Reno County, Kans.	26	10:30 p. m.	[2]8	0	1,000,000	Heavy hail	Hail damage to wheat was heaviest over area extending from west of Nickerson to southeast of Haven, with spotted damage elsewhere in county. Stones generally an inch in diameter.
Saline County, Kans.	26	10:45–11:30 p. m.	[2]3	0	225,000	Wind and heavy hail.	Storm centered in area extending from southeast of Mentor to northeast of Smolan. Chief loss was hail damage to wheat. Local wind damage to rural buildings.
Gove County, Kans.	27	6 p. m.	[2]3½	0	300,000	Heavy hail	Wheat damaged in a strip extending nearly across county from west to east about 10 miles south of Quinter. Losses in storm path spotted, ranging near 50 percent on fields that were hit.
Patrick, S. Car., vicinity of	27	7:15 p. m.		2		Electrical	Lightning struck and killed 2 men.
South portion of Wyoming	27–28	Evening of 27th–afternoon of 28th.				Heavy snow	Damage confined principally to trees and shrubbery, although some new-born lambs perished in the storm.
Logan County, Kans.	7	11:30 p. m.	[2]4	0	200,000	Heavy hail	Wheat damaged in central part of County from southwest to southeast of Oakley. Stones generally the size of marbles.
Frontier County, Nebr., south of Curtis and Moorefield.	28	3 a. m.		0	100,000	do	Small grains damaged. Storm area 8 by 8 miles.
Central portion of Wisconsin	28–29	Afternoon to early morning.	0	0		Snowfall	10.0 inches at Gay Mills, 9.0 at Viroque, 8.4 at Pine River, 4.5 at Sturgeon Bay, and 2.0 to 4.0 inches over connecting belt. Wet, clinging snow damaged fruit and other trees. Telephone and power lines down in places.
Kenosha and Racine, Wis.	28–29	Afternoon, night.		0	(11)	Wind	5- to 7-foot swells in Lake Michigan damaged small craft, docks, waterfront buildings, and property.
El Vado, Colo. (6 miles from Boulder)	28	P. m.		1		Lightning	1 woman killed; 3 children and another woman knocked unconscious.
Stevens County, Kans.	28	6–8 p. m.	[2]8	0	3,500	Heavy hail	Wheat damaged from southwest to south-central part of county.
Bridgeport, Tex.	28	7 p. m.	[2]10	0	9,000	Straight line wind	Crops in storage suffered $5,000 damage. Property damage, $4,000, mostly to barns.
Argos, Ind.	28	11:30 p. m.		0	5,000	Wind	Buildings damaged.
Northern and western Nebr.	28			0		Heavy damp snow	Snow weighted down trees, causing in many cases entire loss of trees and breaking limbs of all sizes. Losses extensive, but not estimated. Considerable losses sustained by prostration of telephone, telegraph, and power lines.
Kentland, Ind.	29	1:30 a. m.	30	0	5,000	Tornado	Path southwest to northeast, about 1,400 feet long.
Albright, W. Va. and vicinity.	29	12:30–1:30 p. m.	[2]1½	0	500	Severe wind, some rain, and hail.	Most damage caused by high northwest winds breaking windows, blowing down trees, and tearing off roofs.
Oswego, N. Y.	29	1:11 p. m.		0	(12)	Hail	Hailstones ranging up to 1 inch in diameter swept Fruit Valley immediately west of Oswego and an area ¼ mile east. Strawberries badly damaged and truck crops badly hit. Most tomato plants required replacing.
Capon Valley, near Wardensville, W. Va.	29	About 2:00 p. m.	[2]½	0	4,000	Moderate hail	Considerable hail, with southwest wind, damaged crops and felt roofs of poultry houses. Hailstones were about ½ inch in diameter.
Carlisle, North Middletown, and Middlesex Townships, Pa.	29	3:30 p. m.	1,750	0	100,000	Tornado	15-mile path, with storm varying in intensity. Scores of buildings damaged.
Harrisburg, Pa.	29	do		0		Thunderstorm and wind.	Roofs torn from several houses and barns. Hundreds of trees felled.
Newark Valley Township, N. Y.	29	About 4:00 p. m.		2	100,000	Thunderstorm winds.	Winds unroofed buildings, demolished barns, felled trees, and crushed 2 airplanes beneath a collapsing hangar. 1 person electrocuted and a child drowned.
Pine Grove, Pa.	29	4:30 p. m.	50	1		Tornado	Houses and trees damaged; 2 barns completely destroyed. One man and 2 horses killed. Path at least 1½ miles long.
Burlington, Vt.	29	5–6 p. m.		0	100,000	Electrical, heavy rain.	Rainfall undermined streets and foundations of residences and tenements. Basements were flooded, causing damage to equipment and goods in storage. Light, power, and telephone service was disrupted.
Napoleon, Ohio (5 miles west).	29	5 p. m. E. S. T.	(7)	0		Tornado (small)	Barn destroyed; small buildings leveled; trees twisted off.
Twin Falls and Jerome Counties, Idaho.	30	4:15 p. m. M. S. T.	[2]3	0	(13)	Moderate hail	Considerable damage to peas, beans, beets, small grains, and alfalfa over an area approximately 3 by 8 miles. Hailstones about ¼ inch in diameter. Storm moved from a southwesterly to northeasterly direction.
Ellis County, Okla.	31	6:15–7:00 p. m.	[2]¼–¼	0	9,500	Tornado	Entered the State from point of origin several miles southeast of Higgins, Tex. Storm moved northeastward across Ellis County, lifting from time to time. 8 to 10 farmsteads severely damaged; 1 person injured. Followed much the same path as the devastating tornado of April 9.
Higgins, Tex.	31	6:45 p. m.	[14]265	0	None	do	Tornado struck where destructive tornado of Apr. 9, 1947, had previously destroyed buildings.
Roger Mills and Dewey Counties, Okla.	31	7:30–8:15 p. m. (at Leedy between 7:54 and 8:09 p. m.)	[2]¼–½	6	1,000,000	do	Storm originated 15 miles southwest of Leedey in Roger Mills County. Its path was only 300 yards wide when it struck a school 13 miles southwest of Leedey. Fatalities, injuries, and principal property damage were at Leedey, where 147 residences and 20 business places, comprising about ¾ of the town, were demolished; 15 persons injured. The forward progress of the tornado was very slow, as Leedey had a warning of 30 minutes before the storm struck. Storm dissipated shortly after leaving Leedey.
Jackson County, Okla.	31	8:45–9:10 p. m.	100–440	0	178,500	do	Storm path about 10 miles long. It originated 3 miles north of Altus, moving north-northeast through Blair. 3 persons slightly injured.
Caddo County, Okla.	31	9 p. m.		0	3,000	High wind	Vicinity of Carnegie. Airplanes and hangar badly damaged.
Jewell County, Kans.	31	11 p. m.	[2]15	0	25,000	Heavy hail	Hail of marble size damaged wheat over southern part of County.
Montgomery County, Kans.	31	11:30 p. m.	¼	0	6,500	Winds	High winds, from 1 mile southwest to 4 miles northeast of Elk City, damaged buildings and crops. Property damage totalled $2,000.
Rapid City, S. Dak., and vicinity.	31			0		Hail	Severe hailstorm extending from Rapid City southwestward caused extensive damage to gardens, trees, and automobiles.

[1] Unknown.
[2] Miles instead of yards.
[3] Thousands of dollars.
[4] Or more.
[5] Several thousand dollars.
[6] Small.
[7] Local.
[8] Narrow.
[9] Estimates up to $500,000.
[10] Slight.
[11] Several thousand.
[12] Unestimated.
[13] No estimate available.
[14] About.

LATE REPORTS FOR APRIL 1947

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
	Apr. 1947						
Southern half of Iowa	5 and 6	Saturday afternoon until Sunday morning.	----------	0	$40,000	Windstorm	Many trees blown over; some telephone or power lines down; and windowpanes blown in. Several planes damaged at Beaver Airport, Des Moines; Cram Field, Davenport; and Knoxville Airport. Some farm buildings blown over, with some livestock killed. Gusts up to 67 m. p. h., reported at Cedar Rapids; 65 m. p. h., at Iowa City; and 62 m. p. h., at Des Moines Airport. Airport and plane damages estimated at $25,000.
Indiana	5 and 6	----------	----------	0	100,000	Wind	Minor damage general; considerable in some areas.
Southeast Woodbury, Idaho., northwest Sac, southern Buena Vista, southern half Pocahontas, and Humboldt Counties, Iowa	23	4–5 a. m.	[1] ¼–3	0	250,000	Wind and hail	Hail damage 5–10 percent of property loss—remainder by wind. Livestock losses estimated at $20,000 to $30,000. Wind caused poultry loss, demolished barns, and overturned many small buildings.
Floyd County and Charles City, Iowa.	23	6 a. m.	----------	0	60,000	Hailstorm	Hailstones up to 1¼ inches in diameter caused extensive property damage in Charles City. Airplane losses estimated at $1,500. Two greenhouses and roofs on about 1,000 buildings damaged.
Decatur and Wayne Counties, Morgan, Grand River, Jefferson, Clinton, Warren and Jackson Townships, Iowa.	29	3–4 p. m.	200–400	0	100,000	Tornado	Tornado that devastated Worth, Mo., traveled east-northeast to northeast in Iowa. It passed about 2 miles south of Pleasanton in Decatur County, a mile north of Lineville in Wayne County, through the town of Clio, and 3 miles south of Allerton to 5 miles east of Harvard, where it dissipated. Clio sustained the heaviest losses where at least 20 homes, lumber yard, church, and hatchery were damaged. North of Lineville, several farmsteads were slightly to severely damaged. From 3 miles south of Allerton to east of Harvard, storm was less intense, with minor damage to about 5 or 6 farmsteads. Loss of farm animals, about $2,000, mostly poultry.
Parke and Clay Counties, Ind.	29–30	Midnight	----------	0	10,000	Wind and hail	No damage from hail.

[1] Miles instead of yards.

SOLAR RADIATION AND SUNSPOT DATA FOR MAY 1947

[Solar Radiation Investigation Section, I. F. HAND in Charge]

SOLAR RADIATION OBSERVATIONS

Explanations of the tables and references to descriptions of instruments, stations, and methods of observation and to summaries of data, are given in the MONTHLY WEATHER REVIEW, vol. 72, page 43, January 1944. A list of pyrheliometric stations is given on page 45 of the same REVIEW. An explanation of the formula used in computing the air mass values for each station will be found in vol. 75, No. 3, March 1947, p. 47.

Through the courtesy of Mr. Hugh W. Brodie, Chief of the Climatology Department at the Experiment Station of the Hawaiian Sugar Planters' Association, Honolulu, Hawaii, values of total solar and sky radiation received on a horizontal surface at Makiki and Waipio, Hawaii, will appear regulary in the MONTHLY WEATHER REVIEW in Table 2.

The Makiki Station is on the grounds of the Experiment Station 1.5 miles east of the Federal Building and within the city of Honolulu. The immediate area is almost exclusively residential and there is little atmospheric vitiation from man-made causes. The latitude and longitude of the pyrheliometer installation are 21°18.4′ N., and 157°50.4′ W., respectively, and the elevation is 50 feet. Hills varying in height up to 2,000 feet at a distance of from 3–10 miles prevent an absolutely free horizon in every direction.

The Waipio Station is approximately one-eighth mile from the north shore of the middle Loch of Pearl Harbor. The latitude and longitude are 21°23.5′ N. and 157°59.8′ W., respectively, and the elevation is 60 feet. The true horizon is less obscured than that at Makiki, but distant hills cut off about 5° of the horizon for an arc of approximately 230°. This station is in a cane-growing area, the radiation received being representative of approximately 15,000 acres of cane land.

TABLE 1.—*Solar radiation intensities during May 1947*

[Gram calories per minute per square centimeter of normal surface]

Date	Sun's zenith distance								Vapor pressure	
	A. M.				0.0	P. M.				
	78.7	75.7	70.7	60.0		60.0	70.7	75.7	78.7	7:30 a. m.[1]	1:30 p. m.[1]
MADISON, WIS.											
	Air mass										
	4.81	3.84	2.88	1.92	0.96*	1.92	2.88	3.84	4.81		
May	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mb.*	*mb.*
3				0.99						9.1	9.8
7	0.76	0.87	1.02	1.19	1.56					5.6	4.8
8	.77	.88	1.03	1.16	1.42					5.1	4.0
9	.64	.76	.94	1.03	1.31					5.1	3.3
10	.60	.73	.87	1.04	1.27					5.1	4.6
13				.80						13.7	16.5
16	.61									9.8	11.4
19			.70							14.2	17.7
20				1.10						10.2	9.4
21		.76	.90	1.04	1.38					9.1	8.7
23		.77								9.4	9.8
26	.71	.84	.98	1.11						7.8	5.8
31	.65	.76	.90	1.04						9.8	12.3
Means	.68	.80	.92	1.05	1.39						
Departures	+.06	+.03	−.03	−.05	+.02						

See footnotes at end of table.

TABLE 1.—*Solar radiation intensities during May 1947*—Con.

[Gram calories per minute per square centimeter of normal surface]

Date	Sun's zenith distance								Vapor pressure	
	A. M.				0.0	P. M.				
	78.7	75.7	70.7	60.0		60.0	70.7	75.7	78.7	7:30 a. m.[1]	1:30 p. m.[1]
LINCOLN, NEBR.											
	Air mass										
	4.77	3.81	2.86	1.91	0.95*	1.91	2.86	3.81	4.77		
May	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mb.*	*mb.*
1				0.70	1.32					7.8	10.2
2				1.14	1.41	1.21	1.06	0.94	0.86	6.1	8.1
4					1.25	1.01	.82	.69		8.7	8.1
7					1.32	1.00	.77			5.8	7.8
13					1.36	1.06	.88	.75	.62	10.6	12.7
14					1.29	.99	.82			12.3	17.7
20					1.35	1.06	.82	.67	.58	10.2	12.7
21					1.34					8.1	11.0
26					1.31					9.4	6.6
29					1.43					6.1	6.9
Means				(0.92)	1.34	1.06	.86	.76	.68		
Departures				−.20	−.03	−.07	−.04	−.04	+.01		
BLUE HILL, MASS											
	Air mass										
	4.86	3.89	2.92	1.94	0.97*	1.94	2.92	3.89	4.86		
May	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mb.*	*mb.*
6									0.49	10.6	10.6
8	0.79	0.90	1.03	1.18						5.3	4.3
10	.90	1.00	1.10	1.23	1.49	1.21	1.05	0.88	.77	3.6	2.9
11			.98		1.40		.83			4.2	4.8
14							1.04	.97	.88	8.6	5.3
15	.87	.94	1.10	1.26	1.51	1.31	1.12	1.00	.88	6.5	6.4
16	.86	.94	1.07							8.4	7.7
17	.46	.59	.79	.98						9.3	9.4
21						.93	.75	.55		10.0	11.0
24	.52	.62	.73	.90		.73				16.3	19.3
26							.97	.87		14.1	10.1
27	.49		.71		1.39	1.18	1.00			12.7	6.9
29						1.01	.88	.70		20.1	22.7
30					1.44	1.25	1.07	.92		9.4	8.4
31	.84	.92	1.02	1.11						6.5	7.0
Means	.72	.84	.95	1.11	1.45	1.09	.97	.84	.76		
Departures	+.07	+.05	.00	+.02	+.08	+.02	+.08	+.10	+.12		
CLIMAX, COLO.											
	Air mass										
	3.24	2.59	1.94	1.29	0.65*	1.29	1.94	2.59	3.24		
May	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mb.*	*mb.*
8					1.53	1.22	1.04				
13						1.34	1.22	1.08	0.98		
14				1.31							
19			1.17	1.36	1.51						
20				1.39	1.55	1.36	1.22	1.14	1.04		
21			1.19	1.35	1.56	1.34	1.19	1.09	1.03		
22			1.20	1.37	1.53						
25				1.25	1.50						
26			.99	1.16							
Means			1.14	1.31	1.53	1.32	1.17	1.10	1.02		
TABLE MOUNTAIN, CALIF.											
	Air mass										
	3.76	3.01	2.26	1.51	0.75*	1.51	2.26	3.01	3.76		
May	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mb.*	*mb.*
1				1.36							
2	1.06	1.15	1.26	1.37	1.47						
17				1.38							
18				1.32							
21				1.26							
28				1.38							
Means	(1.06)	(1.15)	(1.26)	1.34	(1.47)						

[1] 75th meridian time. * Extrapolated.

TABLE 2.—*Daily totals and weekly means of solar radiation (direct+diffuse) received on a horizontal surface*

[Gram calories per square centimeter]

Date	Washington, D. C.	Madison, Wis.	Lincoln, Nebr.	East Lansing, Mich.	New York, N. Y.	Fresno, Calif.	Fairbanks, Alaska	Columbia, Mo.	Boston, Mass.	Nashville, Tenn.	Twin Falls, Idaho	La Jolla, Calif.	Riverside, Calif.	Blue Hill, Mass.	Newport, R. I.	Salt Lake City, Utah	State College, Pa.	Davis, Calif.	New Orleans, La.	Toronto, Canada	Ithaca, N. Y.	Boulder, Colo.	Soda Springs, Calif.	East Wareham, Mass.	Honolulu, Hawaii	Pearl Harbor, Hawaii
1947	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.
Apr. 30	447	531	459	273	360	699	277	707	364	276	618	621	647	356	365	696	288	696	224	247	86	674	731	206	716	664
May 1	576	347	610	163	261	686	505	455	30	364	620	468	675	83	54	682	440	676	520	127	242	690	735	83	380	439
May 2	454	79	705	206	54	665	274	106	92	304	617	639	662	126	101	679	275	704	614	215	82	702	729	136	486	428
May 3	372	350	524	380	63	680	610	674	41	173	618	604	671	98	176	719	216	741	610	514	342	498	750	102	425	333
May 4	456	443	665	246	130	619	151	688	146	544	574	495	629	156	64	676	335	649	581	368	263	667	735	177	730	684
May 5	383	485	265	162	86	684	438	633	319	650	606	355	570	368	361	528	230	705	591	60	43	534	748	339	507	556
May 6	564	204	551	390	414	718	420	587	170	543	447	589	642	298	344	623	195	710	584	176	42	261	770	317	651	513
Means	465	348	540	260	195	679	382	550	166	408	586	539	642	212	209	658	283	697	532	248	158	576	743	194	557	516
Departures	−6	−93	+91	−87	−237	+54	−43	+102	−197	−36	+45	−19	+102	−239	−253	----	−184	+51	+91	−143	−240	+72	----	−228	----	----
May 7	500	646	710	251	222	717	538	762	97	607	629	566	683	182	221	705	177	682	----	180	30	530	532	279	647	668
May 8	672	653	523	262	503	638	534	712	443	627	639	608	644	472	318	724	425	570	----	298	252	309	400	450	471	398
May 9	506	666	512	663	408	685	462	770	386	687	273	599	666	410	442	529	299	735	----	711	275	410	715	498	497	451
May 10	756	657	536	630	696	692	163	760	678	700	228	450	544	744	742	327	726	746	----	674	509	204	785	708	546	504
May 11	746	666	392	623	656	738	339	614	640	646	164	504	531	696	698	229	703	710	----	629	492	459	520	682	636	673
May 12	720	413	346	513	591	585	277	362	527	600	385	652	707	594	586	287	624	642	----	488	443	560	622	569	509	578
May 13	650	334	646	371	506	693	478	739	376	342	387	498	685	400	556	436	385	712	----	212	202	690	781	488	616	613
Means	663	576	524	473	512	678	399	674	450	601	386	554	637	500	509	462	477	697	----	456	315	452	622	525	560	555
Departures	+186	+119	+75	+65	+70	+38	−50	+194	+56	+128	−167	−8	+102	+31	+37	----	+34	+32	----	+45	−112	−20	----	+54	----	----
May 14	516	543	695	461	41	731	396	731	266	446	640	341	150	230	82	536	238	719	----	632	45	459	----	129	706	685
May 15	238	292	328	461	411	715	546	444	711	500	688	486	519	759	761	728	157	724	----	334	157	81	762	740	454	410
May 16	217	660	311	461	511	715	441	320	558	631	678	302	555	649	317	734	204	729	----	451	148	375	741	477	663	584
May 17	501	75	195	461	491	732	452	453	608	456	638	332	628	661	677	705	90	753	----	302	219	622	762	671	709	617
May 18	405	661	709	461	146	707	628	761	62	405	628	280	660	84	98	618	441	710	----	272	156	384	743	92	703	467
May 19	-------	310	396	461	552	705	608	500	287	209	696	323	453	514	504	749	454	736	----	565	191	472	694	479	562	644
May 20	-------	518	417	538	421	717	549	106	293	386	703	528	605	361	428	714	557	721	----	493	384	770	753	339	340	373
Means	375	437	436	472	368	717	517	482	398	434	667	370	510	465	410	683	306	728	----	436	186	452	743	418	591	540
Departures	−97	−31	−70	+143	−86	+64	+58	−1	−9	−15	+68	−174	−21	−22	−84	----	−114	+76	----	+30	−238	+11	----	−41	----	----
May 21	515	705	639	343	171	722	551	765	140	173	700	398	510	176	121	738	254	723	----	153	254	724	756	155	310	383
May 22	399	242	349	623	136	736	638	565	125	665	693	151	251	106	188	740	705	735	----	653	442	76	762	229	645	652
May 23	655	510	636	204	635	746	452	191	253	627	688	429	583	270	464	727	627	706	----	398	435	160	750	317	726	707
May 24	623	219	480	285	420	733	364	442	512	184	686	516	-------	622	597	731	506	695	----	367	259	658	673	613	661	684
May 25	253	591	656	218	187	732	411	784	327	171	400	433	-------	396	263	654	348	704	----	109	172	609	776	314	801	488
May 26	722	735	743	529	532	451	358	505	608	638	557	186	254	682	617	601	718	322	----	252	434	207	313	608	700	546
May 27	659	280	252	281	680	553	513	364	658	647	231	481	-------	721	657	278	700	385	----	539	427	273	143	653	585	416
Means	547	469	536	355	394	668	469	517	375	444	565	371	400	425	415	638	551	610	----	353	346	387	596	413	590	551
Departures	+50	−22	−2	−7	−66	+10	+23	-----	−54	−54	−33	−126	−136	−36	−32	----	+88	−23	----	−46	−120	−60	----	−69	----	----
May 28	704	83	52	78	543	721	653	646	439	599	657	608	-------	568	531	421	579	691	----	191	289	173	369	519	445	395
May 29	634	547	798	175	573	711	641	803	555	185	692	410	679	628	426	518	500	655	----	274	254	736	633	423	659	680
May 30	704	663	762	433	668	243	730	760	423	732	302	583	366	484	374	378	734	373	----	460	425	575	163	297	722	640
May 31	759	634	182	592	676	585	745	577	619	702	441	618	606	649	608	243	633	310	----	570	393	381	118	622	666	572
June 1	722	77	142	92	630	752	633	-----	568	497	493	561	629	652	638	313	573	642	----	115	190	621	354	624	630	593
June 2	509	693	594	197	390	598	446	-----	374	339	372	442	364	453	501	361	340	630	----	54	96	573	327	503	509	600
June 3	552	686	362	681	242	747	714	-----	114	253	439	646	683	136	154	156	499	736	----	736	352	380	642	125	593	598
Means	655	483	413	321	532	622	652	-----	442	472	485	553	554	510	461	341	551	580	----	343	285	491	372	445	603	582
Departures	+138	−8	−108	−60	+38	−46	+160	-----	−14	−30	−90	+7	+15	−15	−67	----	+79	+7	----	−84	−187	+16	----	−53	----	----

ACCUMULATED DEPARTURES ON JUNE 3, 1947

	+5,824	−1,617	−3,710	−154	−2,464	+2,814	-----	-----	−2,100	−1,309	+1,288	−4,130	+3,199	−1,799	−4,046	----	−399	+329	----	−2,590	−8,932	+406	----	-----	----	----

ADDITIONAL DATA FOR FAIRBANKS, ALASKA, MARCH 1947

Week beginning—	Means	Departures
Feb. 26	118	−8
Mar. 5	120	−23
Mar. 12	173	−23
Mar. 19	229	+8
Mar. 26	330	+40

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MAY 1947

By LUCY T. DAY

[Equatorial Division, U. S. Naval Observatory]

[Communicated by the Superintendent, U. S. Naval Observatory.] All measurements and spot counts were made at the Naval Observatory from plates taken at the observatories indicated. Difference in longitude is measured from the central meridian, positive toward the west. Latitude is positive towards the north. Areas are corrected for foreshortening and expressed in millionths of Sun's hemisphere. For each day under Mount Wilson group number, longitude, latitude, area of spot or group, and spot count, are included respectively: number of groups, assumed longitude of center of the disk, assumed latitude of center of the disk, total area of spots and groups, and total spot count.

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1947	h m		°	°	°	°				
May 1	10 56	8535	−80	40	−14	80	97	1	G	U. S. Naval.
		8534	−68	52	+12	70	12	2		
		8527	−52	68	−25	54	873	11		
		8527	−33	87	−24	37	194	3		
		8526	−24	96	−24	30	48	4		
		8525	−16	104	+22	30	267	14		
		8532	−10	110	−25	24	24	6		
		8531	−9	111	−21	19	73	2		
		8531	−6	114	−21	18	48	1		
		8522	−5	115	−15	12	12	3		
		8522	−2	118	−10	6	170	1		
		8530	+8	128	−15	13	24	4		
		8516	+12	132	−15	17	48	10		
		8516	+23	143	−13	23	12	1		
		8516	+29	149	−17	31	36	3		
		8513	+29	149	−16	31	24	1		
		8513	+35	155	−17	37	194	1		
		8512	+45	165	−11	45	267	3		
		8511	+50	170	−21	51	12	2		
		8521	+55	175	+12	57	48	2		
		8521	+61	181	+9	62	291	2		
		8510	+68	188	+24	71	776	6		
		8515	+70	190	+18	72	242	7		
		(16)		(120)	(−4)		3,792	90		
2	10 7	8538	−80	27	+7	80	48	1	F	Do.
		8535	−77	30	−17	77	97	1		
		8535	−70	37	−13	70	242	4		
		8527	−39	68	−24	42	727	8		
		8527	−20	87	−22	26	97	1		
		8526	−12	95	−22	22	24	1		
		8525	−3	104	+22	26	145	6		
		8531	+5	112	−21	18	97	5		
		8537	+6	113	−3	5	48	6		
		8522	+11	118	−10	13	145	1		
		8530	+24	131	−16	26	24	6		
		8516	+26	133	−14	29	24	2		
		8513	+42	149	−16	43	12	2		
		8513	+49	156	−18	50	194	1		
		8512	+59	166	−11	59	267	1		
		8521	+75	182	+10	76	291	1		
		8510	+80	187	+24	81	436	2		
		(14)		(107)	(−4)		2,918	49		
3	10 54	8538	−68	25	+7	69	24	2	G	Do.
		8535	−63	30	−15	63	121	13		
		8535	−54	39	−15	55	242	7		
		8540	−34	59	+19	41	388	14		
		8527	−24	69	−24	31	582	17		
		8527	−7	86	−23	21	73	1		
		8526	−5	88	−15	12	48	15		
		8526	+1	94	−23	20	24	12		
		8525	+12	105	+22	28	339	4		
		8531	+20	113	−21	26	48	9		
		8537	+21	114	−3	21	339	15		
		8539	+24	117	−16	27	6	3		
		8522	+26	119	−10	27	121	1		
		8516	+41	134	−16	43	6	3		
		8516	+49	142	−16	50	6	2		
		8513	+64	157	−18	64	218	1		
		8512	+72	165	−10	72	388	1		
		(13)		(93)	(−4)		2,973	120		
4	11 42	8538	−53	27	+7	54	12	2	G	Do.
		8541	−50	30	−17	51	97	13		
		8535	−44	36	−16	45	145	15		
		8535	−39	41	−15	40	339	6		
		8540	−23	57	+19	32	388	3		
		8540	−19	61	+20	30	485	6		
		8527	−11	69	−24	23	582	3		
		8527	+7	87	−23	20	97	7		
		8526	+13	93	−23	22	48	7		
		8532	+22	102	−22	28	6	1		
		8525	+27	107	+21	37	73	1		
		8531	+31	111	−22	35	12	2		
		8537	+34	114	−5	34	485	15		
		8522	+40	120	−11	41	145	1		
		8536	+60	140	+28	66	12	1		
		8513	+79	159	−18	79	194	1		
		(13)		(80)	(−4)		3,120	84		

See footnotes at end of table.

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MAY 1947—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1947	h m		°	°	°	°				
May 5	10 30	8544	−80	347	+12	80	48	1	G	U. S. Naval.
		8543	−72	355	−12	72	339	6		
		8541	−37	30	−17	39	73	15		
		8535	−29	38	−16	31	48	5		
		8535	−26	41	−15	29	436	6		
		8540	−11	56	+19	25	388	2		
		8540	−7	60	+20	25	436	3		
		8527	+2	69	−24	21	533	8		
		8527	+21	88	−23	28	24	3		
		8542	+5	72	+47	30	12	1		
		8526	+27	94	−23	32	48	3		
		8532	+35	102	−22	39	6	1		
		8525	+40	107	+20	46	48	1		
		8531	+45	112	−22	48	12	2		
		8537	+45	112	−5	45	339	6		
		8537	+52	119	−5	52	194	4		
		8522	+53	120	−10	53	97	1		
		(13)		(67)	(−4)		3,081	68		
6	8 56	8544	−68	347	+12	70	73	12	G	Mt. Wilson.
		8543	−63	352	−13	63	121	7		
		8543	−58	357	−12	58	291	14		
		8538	−29	26	+7	31	12	3		
		8541	−24	31	−17	26	48	11		
		8535	−11	44	−16	16	339	3		
		8540	+3	58	+18	22	339	8		
		8540	+7	62	+19	24	485	2		
		8527	+14	69	−25	25	533	12		
		8532	+49	104	−22	51	24	3		
		8525	+54	109	+21	59	24	2		
		8531	+58	113	−21	59	12	2		
		8537	+58	113	−5	58	485	8		
		8537	+67	122	−5	67	194	2		
		8522	+67	122	−10	67	97	2		
		(12)		(55)	(−4)		3,077	91		
7	10 31	8546	−72	329	+8	73	12	3	G	U. S. Naval.
		8544	−57	344	+13	59	48	5		
		8544	−49	352	+13	51	97	1		
		(*)	−50	351	−20	52	6	2		
		8543	−50	351	−13	50	97	4		
		8543	−43	358	−12	44	339	2		
		8545	−39	2	−17	40	73	5		
		8541	−11	30	−17	16	48	4		
		8535	+3	44	−14	11	388	2		
		8540	+15	56	+19	27	339	5		
		8540	+21	62	+20	32	388	6		
		8527	+28	69	−25	35	485	3		
		8532	+62	103	−21	63	24	2		
		8525	+67	108	+22	70	12	3		
		8531	+69	110	−21	69	48	3		
		8537	+69	110	−5	69	436	6		
		8537	+80	121	−5	80	145	1		
		(13)		(41)	(−4)		2,985	57		
8	10 11	8547	−80	308	+21	80	97	3	G	Do.
		8547	−75	313	+22	77	291	2		
		8546	−59	329	+9	60	48	1		
		8544	−42	346	+11	44	24	1		
		8544	−35	353	+12	38	73	3		
		8543	−37	351	−13	39	97	7		
		8543	−31	357	−13	33	291	2		
		8545	−25	3	−17	29	121	16		
		8541	+7	35	−17	16	48	8		
		8535	+16	44	−13	19	364	9		
		8540	+28	56	+18	35	291	10		
		8540	+35	63	+19	41	485	1		
		8527	+40	68	−25	44	291	5		
		8532	+78	106	−21	79	73	1		
		8537	+84	112	−5	84	339	3		
		(11)		(28)	(−3)		2,933	72		
9	10 34	8548	−80	294	+23	80	242	2	G	Do.
		8548	−70	304	+20	72	291	2		
		8547	−60	314	+21	63	242	1		
		8546	−44	330	+10	46	48	1		
		8544	−20	354	+13	25	145	5		
		8543	−20	354	−13	22	339	4		
		8545	−11	3	−17	17	194	10		
		8541	+17	31	−18	22	48	1		
		8535	+30	44	−13	32	339	2		
		8540	+40	54	+17	44	194	4		
		8540	+47	61	+19	51	339	1		
		8527	+52	66	−26	55	291	3		
		(10)		(14)	(−3)		2,712	36		
10	12 49	8548	−65	295	+23	68	291	2	F	Do.
		8548	−55	305	+20	59	291	4		
		8547	−47	313	+20	51	194	2		
		8546	−30	330	+9	32	24	1		
		8544	−8	352	+12	18	170	7		
		8544	−4	356	+11	14	242	2		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MAY 1947—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic				Area of spot or group	Spot count	Plate quality	Observatory
			Difference in longitude	Longitude	Latitude	Distance from center of disk				
1947	h m		°	°	°	°				
May 10	12 49	8543	−8	352	−13	13	97	5	F	U. S. Naval.
		8543	−2	358	−12	9	242	2		
		8545	−1	359	−18	16	97	3		
		8545	+2	2	−16	13	48	1		
		8545	+8	8	−16	15	121	4		
		(*)	+41	41	+14	45	24	1		
		8535	+45	45	−13	46	267	1		
		8540	+55	55	+17	59	194	4		
		8540	+61	61	+19	64	339	1		
		8527	+65	65	−25	67	291	3		
		(10)		(0)	(−3)		2,932	43		
12	10 38	8556	−69	265	+10	70	194	1	F	Do.
		8555	−66	268	−12	66	24	2		
		8554	−55	279	−14	56	24	1		
		8548	−40	294	+23	46	267	3		
		8548	−30	304	+19	36	436	13		
		8547	−21	313	+20	32	291	3		
		8552	−21	313	−19	26	24	4		
		8551	−1	333	+26	29	12	1		
		8544	+17	351	+13	25	97	7		
		8544	+21	355	+11	25	436	2		
		8543	+23	357	−13	24	73	8		
		8543	+24	358	−12	25	242	1		
		8545	+31	5	−16	33	73	6		
		8550	+67	41	−19	69	242	3		
		8535	+70	44	−12	70	291	1		
		8540	+81	55	+17	81	145	2		
		(13)		(334)	(−3)		2,871	58		
13	10 23	8557	−69	252	−25	70	24	4	G	Do.
		8556	−55	266	+10	56	170	1		
		8555	−52	269	−12	52	24	4		
		8554	−40	281	−13	41	24	1		
		8553	−39	282	+20	44	73	9		
		8548	−30	291	+22	38	194	1		
		8548	−26	295	+22	35	61	9		
		8548	−18	303	+19	29	388	13		
		8547	−9	312	+21	25	291	7		
		8552	−8	313	−17	16	12	2		
		8544	+29	350	+12	32	145	7		
		8544	+36	357	+11	38	388	1		
		8543	+30	351	−15	32	12	2		
		8543	+37	358	−13	39	315	14		
		8545	+48	9	−16	50	48	3		
		8550	+79	40	−19	79	267	2		
		8535	+84	45	−12	84	291	1		
		(13)		(321)	(−3)		2,727	81		
14	10 6	8557	−55	253	−25	59	6	1	P	Do.
		8556	−41	267	+9	42	145	1		
		8555	−39	269	−12	40	12	1		
		8554	−27	281	−13	30	12	1		
		8553	−25	283	+20	34	24	2		
		8548	−17	291	+22	30	194	1		
		8548	−14	294	+22	29	24	3		
		8548	−4	304	+19	22	364	12		
		8547	+4	312	+21	24	291	7		
		8558	+30	338	+9	32	12	3		
		8544	+42	350	+12	44	24	10		
		8544	+49	357	+12	51	388	1		
		8543	+49	357	−12	50	97	7		
		8543	+51	359	−12	52	242	1		
		8545	+59	7	−15	60	12	2		
		(11)		(308)	(−3)		1,847	53		
15	8 89	8559	−56	240	−14	58	12	3	G	Mt. Wilson.
		8557	−42	254	−25	46	12	1		
		8556	−27	269	+10	31	170	1		
		8553	−13	283	+19	26	61	5		
		8548	−3	292	+21	24	194	5		
		8548	+8	304	+18	23	388	7		
		8547	+17	313	+21	30	267	4		
		8558	+44	340	+7	45	48	7		
		8544	+57	353	+13	59	24	4		
		8544	+63	359	+12	65	339	1		
		8543	+60	356	−12	61	61	5		
		8543	+65	1	−10	65	291	1		
		(9)		(296)	(−3)		1,867	44		
16	9 17	8568	−87	195	+17	87	97	1	G	Do.
		8568	−87	195	+19	87	48	1		
		8567	−78	204	+16	78	24	1		
		8566	−72	210	+20	74	12	2		
		8565	−68	214	−17	69	12	1		
		8564	−58	224	−30	62	48	4		
		8560	−58	224	+22	63	12	1		
		8559	−42	240	−15	44	6	1		
		8563	−36	246	+18	41	24	6		
		8557	−29	253	−26	36	24	5		
		8561	−19	263	−30	33	24	6		
		8562	−15	267	+10	20	12	4		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MAY 1947—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic				Area of spot or group	Spot count	Plate quality	Observatory
			Difference in longitude	Longitude	Latitude	Distance from center of disk				
1947	h m		°	°	°	°				
May 16	9 17	8556	−14	268	+9	18	170	1	G	Mt. Wilson
		8553	−1	281	+20	23	61	14		
		8548	+9	291	+21	25	230	13		
		8548	+20	302	+18	30	291	8		
		8547	+25	307	+18	33	73	26		
		8547	+30	312	+21	38	339	7		
		8558	+58	340	+7	59	97	10		
		8544	+76	358	+10	76	291	6		
		8543	+80	2	−12	80	145	4		
		(18)		(282)	(−3)		2,040	122		
17	10 5	8572	−85	184	−14	85	97	1	G	U. S. Naval.
		8571	−85	184	+25	85	388	1		
		8568	−75	194	+18	76	873	6		
		8567	−65	204	+17	67	24	2		
		8566	−55	214	+20	58	12	4		
		8565	−50	219	−16	52	24	1		
		8564	−42	226	−27	48	291	7		
		8559	−26	243	−14	28	24	2		
		8557	−14	255	−25	26	12	1		
		8561	−7	262	−29	28	24	4		
		8570	−6	263	−16	15	12	1		
		8556	−1	268	+11	13	194	1		
		8553	+15	284	+21	27	24	6		
		8548	+22	291	+22	31	194	7		
		8548	+26	295	+22	35	48	2		
		8548	+36	305	+20	41	339	18		
		8547	+43	312	+21	48	242	5		
		8569	+45	314	−16	46	48	2		
		8558	+75	344	+7	75	97	1		
		(17)		(269)	(−2)		2,967	72		
18	10 58	8572	−78	177	−17	79	242	2	F	Do.
		8572	−70	185	−15	71	388	1		
		8578	−75	180	+11	75	194	1		
		8571	−70	185	+21	72	194	1		
		8571	−69	186	+25	71	145	1		
		8568	−65	190	+19	68	194	3		
		8568	−61	194	+18	63	436	5		
		8568	−58	197	+17	60	727	14		
		8567	−50	205	+15	53	24	1		
		8566	−41	214	+20	44	24	5		
		8565	−37	218	−16	40	24	1		
		8564	−29	226	−28	38	533	15		
		8577	−28	227	+23	37	48	5		
		8576	−23	232	+19	31	12	2		
		8575	−21	234	−9	22	12	2		
		8561	+7	262	−29	28	24	5		
		8556	+12	267	+11	18	194	3		
		8548	+35	290	+21	41	97	3		
		8548	+51	306	+19	54	291	18		
		8547	+57	312	+21	61	291	4		
		8569	+59	314	−17	60	48	4		
		(16)		(255)	(−2)		4,142	96		
19	10 43	8562	−80	162	−15	80	388	5	VG	Do.
		8572	−66	176	−17	66	242	4		
		8572	−60	182	−16	61	97	4		
		8572	−55	187	−15	56	242	10		
		8578	−62	180	+11	63	194	1		
		8571	−58	184	+21	61	242	5		
		8571	−55	187	+25	60	145	6		
		8568	−51	191	+19	54	194	14		
		8568	−45	197	+17	49	1,067	27		
		8568	−40	202	+16	44	145	9		
		8567	−35	207	+15	38	12	1		
		8566	−28	214	+19	35	24	2		
		8565	−23	219	−16	27	24	1		
		8577	−17	225	+23	30	48	9		
		8564	−17	225	−28	31	558	21		
		8575	−7	235	−9	10	48	28		
		8580	−6	236	+13	16	12	4		
		8579	+2	244	−13	11	12	2		
		8574	+4	246	+14	16	6	3		
		8556	+26	268	+11	29	194	1		
		8548	+47	289	+21	51	61	7		
		8548	+64	306	+18	66	291	15		
		8547	+70	312	+21	72	242	4		
		8569	+71	313	−17	72	194	5		
		(18)		(242)	(−2)		4,682	188		
20	10 13	8582	−75	154	−16	75	48	3	VG	Do.
		8582	−65	164	−15	66	388	12		
		8584	−70	159	−31	72	12	1		
		8581	−62	167	+20	65	12	3		
		8572	−51	178	−17	53	339	8		
		8572	−47	182	−16	49	194	19		
		8572	−42	187	−15	44	291	12		
		8578	−48	181	+11	50	194	1		
		8571	−45	184	+21	50	145	7		
		8571	−42	187	+25	49	194	7		
		8568	−39	190	+20	44	170	20		
		8568	−33	196	+17	38	1,018	22		

See footnotes at end of table.

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MAY 1947—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1947	h m		°	°	°	°				
May 20	10 13	8568	−27	202	+17	33	48	10	VG	U. S. Naval.
		8567	−21	208	+15	27	12	1		
		8566	−11	218	+21	25	24	4		
		8564	−4	225	−28	27	630	18		
		8577	−3	226	+22	23	24	9		
		8583	−3	226	+9	12	6	1		
		8575	+6	235	−8	10	73	6		
		8580	+7	236	+13	16	24	7		
		8556	+38	267	+15	41	6	2		
		8556	+39	268	+11	41	170	1		
		8573	+43	272	+21	48	6	2		
		8548	+60	289	+21	63	48	2		
		8548	+72	301	+19	74	97	1		
		8547	+84	313	+21	84	242	4		
		8569	+85	314	−17	85	194	2		
		(19)		(229)	(−2)		4,609	185		
21	10 41	8587	−64	151	−32	67	24	2	VG	Do.
		8586	−64	151	−8	64	48	2		
		8582	−62	153	−15	63	97	5		
		8582	−52	163	−16	54	267	8		
		8581	−51	164	+23	56	24	2		
		8581	−48	167	+21	52	48	1		
		8572	−39	176	−17	41	206	1		
		8572	−34	181	−16	36	291	24		
		8572	−28	187	−15	31	218	1		
		8578	−35	180	+11	37	194	1		
		8571	−30	185	+23	38	364	18		
		8568	−27	188	+20	34	194	8		
		8568	−20	195	+19	29	630	19		
		8568	−17	198	+17	26	194	13		
		8585	−16	199	−12	19	48	4		
		8567	−7	208	+15	18	12	1		
		8566	+3	218	+20	22	73	6		
		8564	+7	222	−30	29	121	8		
		8564	+11	226	−27	28	267	11		
		8583	+11	226	+7	15	73	4		
		8577	+12	227	+22	26	97	10		
		8575	+21	236	−9	22	48	6		
		8580	+22	237	+12	26	48	5		
		8556	+53	268	+15	56	24	2		
		8556	+53	268	+11	54	145	1		
		8548	+75	290	+20	77	97	2		
		(18)		(215)	(−2)		3,852	165		
22	11 49	8588	−72	130	+31	76	48	1	F	Do.
		8586	−51	151	−7	51	48	4		
		8586	−47	155	−8	47	73	1		
		8582	−45	157	−16	46	267	15		
		8582	−38	164	−17	40	194	1		
		8581	−37	165	+23	44	291	17		
		8572	−26	176	−17	31	194	2		
		8572	−19	183	−16	24	339	22		
		8572	−14	188	−15	19	194	1		
		8578	−21	181	+11	25	194	1		
		8571	−17	185	+23	30	436	21		
		8568	−11	191	+18	22	97	10		
		8568	−5	197	+18	21	679	32		
		8568	0	202	+17	19	121	12		
		8585	−3	199	−12	10	145	11		
		8566	+16	218	+19	26	145	9		
		8564	+22	224	−29	35	776	20		
		8583	+27	229	+7	30	145	7		
		8577	+29	231	+20	35	97	7		
		8575	+35	237	−10	36	73	2		
		8580	+37	239	+11	39	61	3		
		8556	+67	269	+10	68	145	1		
		(16)		(202)	(−2)		4,762	200		
23	10 28	8588	−59	130	+31	64	48	1	F	Do.
		8586	−38	151	−9	39	242	8		
		8582	−30	159	−16	33	727	27		
		8581	−22	167	+23	32	436	16		
		8589	−21	168	−9	22	12	1		
		8572	−10	179	−17	17	291	15		
		8572	−4	185	−16	15	194	1		
		8578	−9	180	+10	14	194	1		
		8571	−4	185	+23	25	436	15		
		8568	0	189	+18	20	194	12		
		8568	+7	196	+17	21	582	26		
		8568	+12	201	+17	22	242	14		
		8585	+10	199	−12	14	73	3		
		8585	+14	203	−12	18	121	4		
		8566	+29	218	+20	35	194	8		
		8564	+32	221	−30	41	436	7		
		8564	+37	226	−28	43	436	16		
		8583	+40	229	+7	41	145	8		
		8577	+41	230	+22	40	218	7		
		8575	+50	239	−8	50	48	1		
		8580	+52	241	+12	54	48	1		
		8556	+80	269	+12	80	145	7		
		(17)		(189)	(−2)		5,462	199		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MAY 1947—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1947	h m		°	°	°	°				
May 24	10 50	8592	−63	113	−29	66	24	1	F	U. S. Naval.
		8591	−55	121	−23	57	194	3		
		8588	−44	132	+28	52	97	3		
		8586	−24	152	−9	25	436	13		
		8582	−19	157	−16	24	218	15		
		8582	−12	164	−17	19	436	13		
		8581	−12	164	+23	27	315	21		
		8581	−7	169	+21	23	364	9		
		8578	−4	172	+10	12	194	1		
		8572	+2	178	−17	16	97	9		
		8572	+8	184	−16	16	194	6		
		8572	+12	188	−15	17	194	1		
		8571	+9	185	+23	26	388	12		
		8568	+13	189	+18	24	145	15		
		8568	+20	196	+17	27	533	28		
		8568	+26	202	+17	33	242	15		
		8585	+26	202	−12	28	170	4		
		8566	+40	216	+21	45	194	10		
		8564	+48	224	−28	52	921	22		
		8583	+53	229	+7	54	170	5		
		8577	+54	230	+23	59	388	7		
		8575	+64	240	−8	64	48	1		
		8580	+65	241	+14	66	48	1		
		(17)		(176)	(−2)		6,010	215		
25	8 45	8594	−75	88	−42	78	145	3	VG	Mt. Wilson.
		8593	−70	93	−19	71	12	4		
		8592	−55	108	−29	60	48	15		
		8591	−43	120	−22	46	194	17		
		8588	−33	130	+31	46	48	18		
		8588	−21	142	+31	38	24	5		
		8586	−16	147	−9	18	170	15		
		8586	−8	155	−9	12	242	4		
		8582	−5	158	−15	13	267	45		
		8582	+1	164	−16	15	388	1		
		8590	−3	160	−20	18	12	7		
		8587	−2	161	−29	28	12	4		
		8581	0	163	+22	24	315	51		
		8581	+5	168	+20	22	412	1		
		8589	+4	167	−10	9	12	1		
		8578	+9	172	+11	15	194	1		
		8572	+15	178	−17	22	194	3		
		8572	+23	186	−15	26	194	20		
		8571	+22	185	+23	32	364	36		
		8568	+25	188	+19	32	145	30		
		8568	+32	195	+18	37	436	50		
		8568	+38	201	+18	43	170	31		
		8585	+33	196	−12	34	24	8		
		8585	+41	204	−12	42	97	2		
		8566	+52	215	+20	55	73	12		
		8564	+59	222	−29	62	873	3		
		8483	+66	229	+7	67	121	7		
		8577	+67	230	+23	70	364	8		
		8580	+78	241	+14	78	24	1		
		(21)		(163)	(−2)		5,574	403		
26	10 27	8594	−59	90	−43	66	194	5	G	U. S. Naval.
		8593	−55	94	−19	57	121	5		
		8592	−38	111	−28	45	48	9		
		8591	−28	121	−22	34	388	14		
		8588	−16	133	+29	33	36	7		
		8588	−7	142	+30	32	48	8		
		8586	−1	148	−9	8	73	7		
		8586	+8	157	−9	12	242	1		
		8595	+3	152	−32	31	12	3		
		8582	+12	161	−16	18	509	19		
		8581	+15	164	+23	28	436	21		
		8581	+21	170	+21	30	388	1		
		8572	+30	179	−17	33	24	6		
		8572	+37	186	−16	39	388	10		
		8578	+31	180	+10	33	194	1		
		8571	+37	186	+23	44	218	7		
		8568	+48	197	+18	51	485	13		
		8585	+58	207	−13	58	170	1		
		8566	+68	217	+20	70	24	2		
		8564	+75	224	−28	77	873	7		
		8577	+80	229	+24	82	339	3		
		(17)		(149)	(−1)		5,210	150		
27	10 26	8601	−80	56	+20	80	194	2	G	Do.
		8594	−55	81	−45	65	48	5		
		8594	−46	90	−42	58	121	1		
		8593	−47	89	−20	50	73	1		
		8593	−41	95	−21	45	194	8		
		8592	−25	111	−29	37	48	10		
		8591	−16	120	−23	26	388	16		
		8588	−8	128	+31	33	24	7		
		8588	−3	133	+27	28	24	3		
		8588	+6	142	+30	32	36	7		
		8586	+17	153	−9	18	24	10		
		8586	+21	157	−9	22	242	1		
		•	+21	157	−22	29	24	6		
		8582	+21	157	−17	26	145	13		

See footnotes at end of table.

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MAY 1947—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1947	h m		°	°	°	°				
May 27	10 26	8582	+30	166	−17	33	315	27	G	U. S. Naval.
		8581	+27	163	+23	35	145	22		
		8581	+32	168	+21	38	485	8		
		8578	+39	175	+12	41	12	2		
		8578	+43	179	+10	44	194	1		
		8572	+50	186	−16	51	339	6		
		8571	+50	186	+23	54	145	2		
		8568	+56	192	+21	59	48	3		
		8568	+60	196	+18	62	533	12		
		8568	+66	202	+17	68	24	5		
		8585	+70	206	−13	70	121	1		
		8564	+87	223	−28	87	679	5		
		(16)		(136)	(−1)		4,625	184		
28	10 44	8605	−85	38	−12	85	291	3	G	Do.
		8606	−78	45	−22	78	533	6		
		8604	−76	47	−11	76	194	5		
		8603	−70	53	−36	73	24	2		
		8601	−67	56	+21	69	194	5		
		8602	−63	60	+17	65	24	1		
		8591	−44	79	−45	59	73	11		
		8594	−35	88	−42	52	97	1		
		8600	−35	88	+10	36	12	1		
		8593	−29	94	−20	34	242	9		
		8599	−25	98	−22	31	97	9		
		8592	−12	111	−30	32	61	7		
		*	−4	119	−16	15	12	1		
		8591	−3	120	−22	21	61	11		
		8591	+1	124	−22	20	194	1		
		*	0	123	+26	27	6	1		
		8586	+29	152	−10	30	24	6		
		8586	+35	158	−10	36	267	1		
		8582	+39	162	−18	41	679	16		
		8581	+41	164	+20	46	630	14		
		8578	+56	179	+9	57	194	1		
		8572	+60	183	−18	61	388	5		
		8571	+63	186	+21	65	291	4		
		8568	+76	199	+16	77	436	4		
		8585	+84	207	−14	84	97	2		
		(22)		(123)	(−1)		5,121	127		
29	10 25	8605	−70	40	−12	70	194	8	G	Do.
		8606	−66	44	−21	67	291	1		
		8606	−63	47	−20	64	291	10		
		8604	−60	50	−11	60	145	7		
		8603	−59	51	−35	62	61	3		
		8601	−53	57	+21	56	242	9		
		8602	−49	61	+17	51	24	3		
		8594	−34	76	−45	53	61	8		
		8594	−23	87	−42	46	121	1		
		8593	−18	92	−19	25	97	10		
		8593	−11	99	−19	21	194	1		
		8599	−12	98	−22	23	145	10		
		8596	−5	105	−19	18	12	3		
		8592	+1	111	−28	27	73	8		
		8598	+4	114	−4	5	24	2		
		8591	+11	121	−22	23	291	9		
		8597	+47	157	−22	50	6	1		
		8586	+49	159	−10	49	267	2		
		8582	+52	162	−17	53	679	7		
		8581	+52	162	+22	56	145	25		
		8581	+60	170	+20	62	1,164	1		
		8578	+69	179	+9	70	170	1		
		8572	+70	180	−17	70	145	4		
		8572	+80	190	−16	80	291	2		
		8571	+80	190	+22	81	145	1		
		8568	+88	198	+16	88	145	2		
		(21)		(110)	(−1)		5,423	139		
30	10 15	8605	−55	42	−13	55	194	6	F	Do.
		8606	−53	44	−21	55	242	1		
		8606	−49	48	−20	51	170	11		
		8604	−46	51	−11	47	73	5		
		8601	−41	56	+21	46	145	7		
		8594	−19	78	−45	47	97	8		
		8594	−10	87	−42	42	73	1		
		8593	−8	89	−20	20	73	1		
		8593	−2	95	−19	18	24	2		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR MAY 1947—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1947	h m		°	°	°	°				
May 30	10 15	8593	+3	100	−20	19	194	1	G	U. S. Naval.
		8599	+1	98	−22	21	291	7		
		8592	+10	107	−32	33	48	3		
		8592	+18	115	−27	32	73	7		
		8592	+19	116	−23	28	36	1		
		8591	+29	126	−22	35	291	1		
		8582	+61	158	−17	62	194	5		
		8582	+70	167	−17	70	582	1		
		8582	+80	177	−17	80	24	1		
		8586	+62	159	−10	62	339	1		
		8581	+68	165	+23	70	242	4		
		8581	+75	172	+21	76	970	2		
		(12)		(97)	(−1)		4,375	76		
31	10 15	8607	−88	355	+11	88	145	1	G	Do.
		8605	−47	36	−13	49	73	2		
		8605	−38	45	−12	39	121	14		
		8606	−41	42	−21	45	218	1		
		8606	−37	46	−20	41	242	22		
		8603	−32	51	−32	43	24	4		
		8604	−31	52	−11	32	48	1		
		8601	−28	55	+21	35	97	6		
		8594	−7	76	−45	45	36	7		
		8594	+1	84	−42	41	48	1		
		8593	+8	91	−20	20	61	5		
		8593	+18	101	−20	26	194	1		
		8599	+13	96	−22	24	242	6		
		8592	+24	107	−32	38	12	3		
		8592	+31	114	−27	39	24	7		
		8591	+32	115	−22	37	12	1		
		8591	+41	124	−22	45	218	2		
		8598	+38	121	−5	38	24	4		
		8582	+74	157	−17	74	194	4		
		8582	+85	168	−17	85	776	1		
		8586	+76	159	−10	76	339	1		
		8581	+85	168	+23	86	873	3		
		(15)		(83)	(−1)		4,021	97		

Mean daily area for 30 days =3,757
Mean 10 g+s for 30 days =269.1

*Not numbered.
VG=very good; G=good; F=fair; P=poor.

PROVISIONAL RELATIVE SUNSPOT NUMBERS FOR MAY 1947

[Dependent on observations at Zurich Observatory and its stations at Locarno and Arosa.]

May 1947	Relative numbers	May 1947	Relative numbers	May 1947	Relative numbers
1	165	11	175	21	210
2	156	12	169	22	255
3	177	13	155	23	300
4	188	14	141	24	306
5	142	15	122	25	341
6	158	16	136	26	396
7	173	17	168	27	304
8	163	18	176	28	279
9	154	19	223	29	276
10	163	20	212	30	234
				31	241

Mean, 31 days=206.5

U. S. GOVERNMENT PRINTING OFFICE: 1947

Chart I. Departure (°F.) of the Mean Temperature from the Normal, and Wind Roses for Selected Stations, May 1947

Chart I. Departure (°F.) of the Mean Temperature from the Normal, and Wind Roses for Selected Stations, May 1947

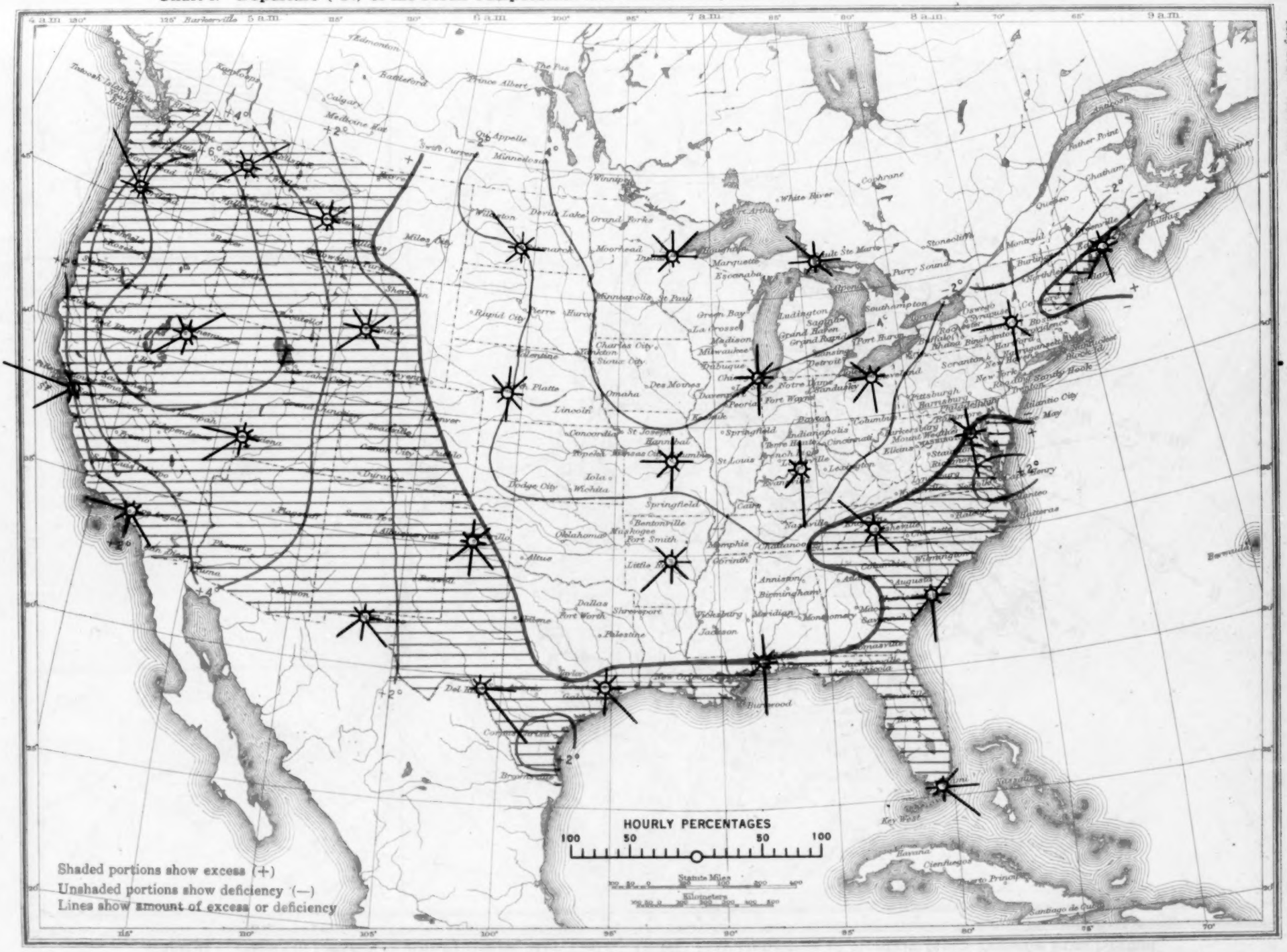
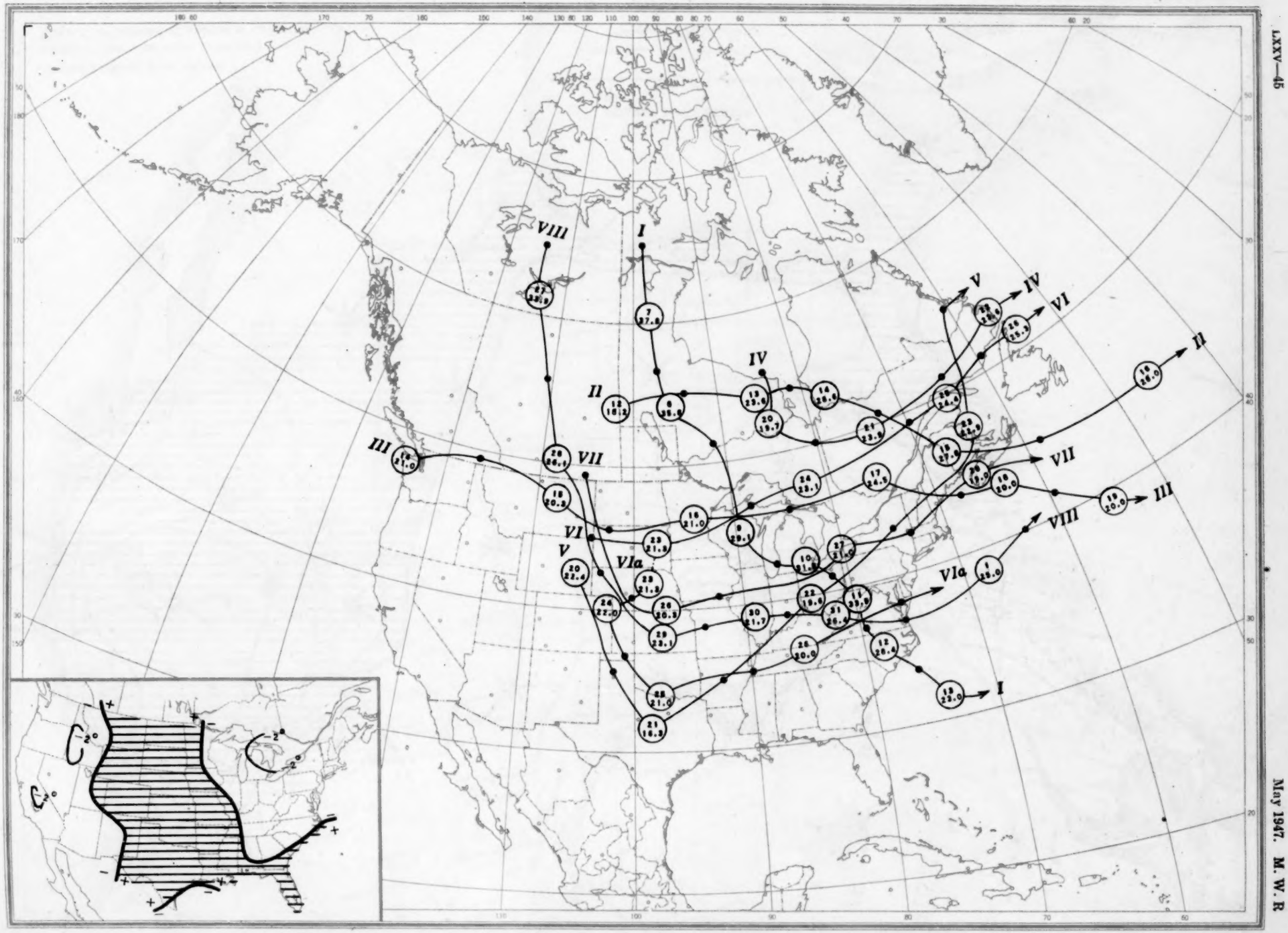


Chart II. Tracks of Centers of Anticyclones, May 1947. (Inset) May Departure of Monthly Mean Pressure from Normal

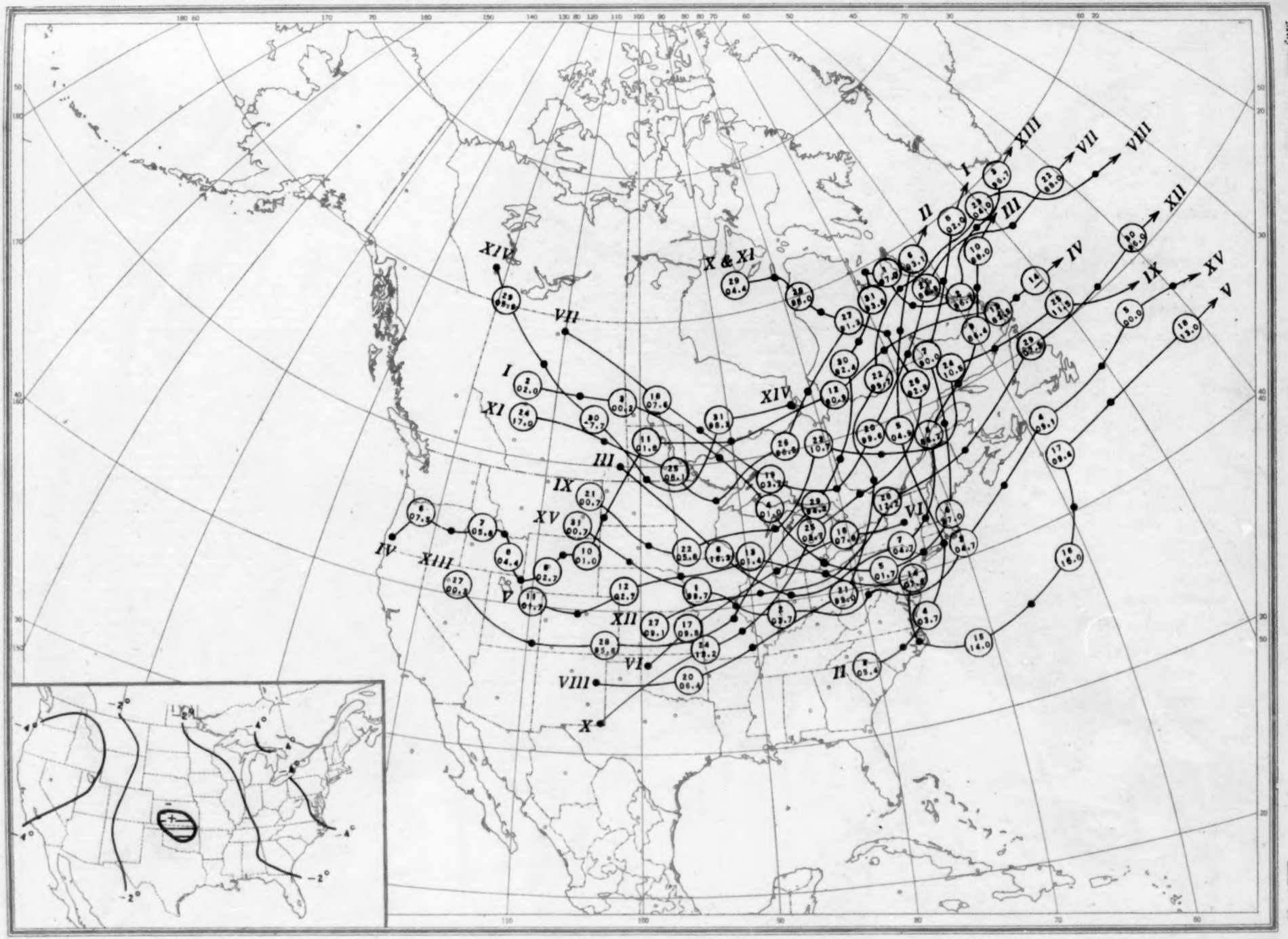


Circle indicates position of anticyclone at 7:30 a. m. (75th meridian time), with barometric reading. Dot indicates position of anticyclone at 7:30 p. m. (75th meridian time)

Chart III. Tracks of Centers of Cyclones, May 1947. (Inset) Change in Mean Pressure from Preceding Month

Circle indicates position of anticyclone at 7:30 a. m. (75th meridian time), with barometric reading. Dot indicates position of anticyclone at 7:30 p. m. (75th meridian time)

Chart III. Tracks of Centers of Cyclones, May 1947. (Inset) Change in Mean Pressure from Preceding Month



Circle indicates position of cyclone at 7:30 a. m. (75th meridian time), with barometric reading. Dot indicates position of cyclone at 7:30 p. m. (75th meridian time)

Chart IV. Percentage of Clear Sky Between Sunrise and Sunset, May 1947

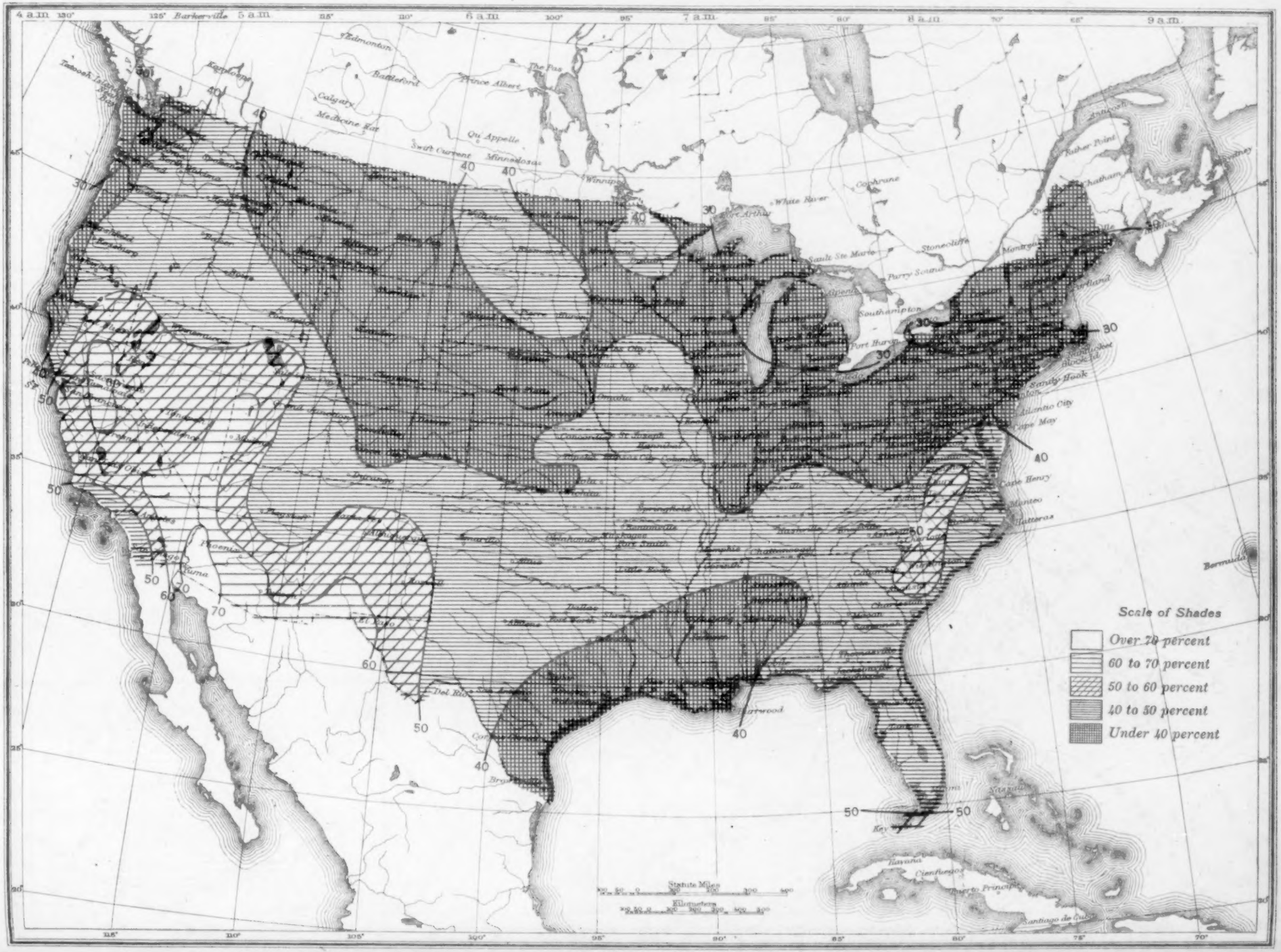


Chart V. Total Precipitation, Inches, May 1947. (Inset) Departure of Precipitation from Normal

Chart V. Total Precipitation, Inches, May 1947. (Inset) Departure of Precipitation from Normal

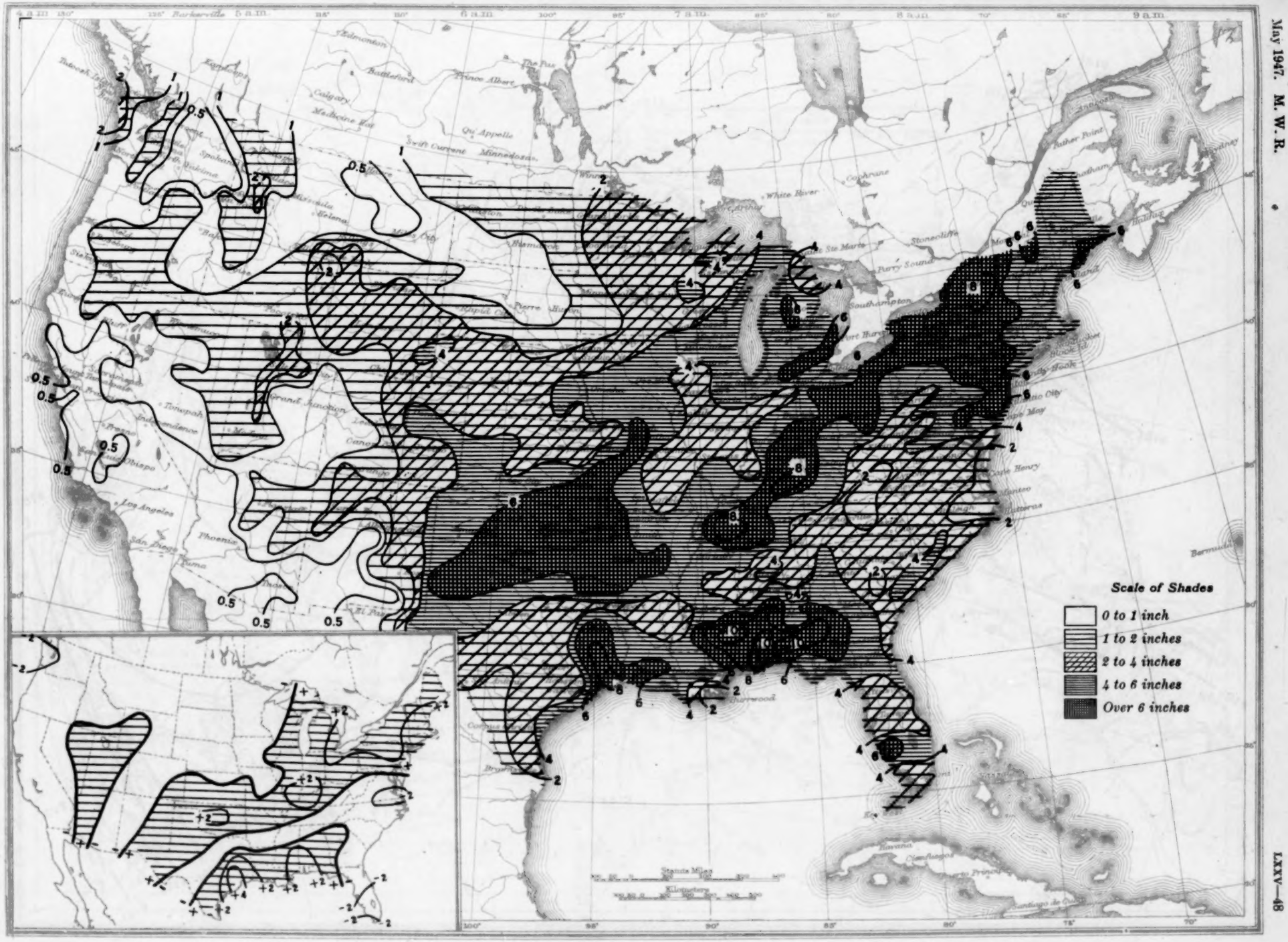


Chart VI. Isobars (mb.), at Sea Level and Isotherms (°F.) at Surface; Prevailing Winds, May 1947

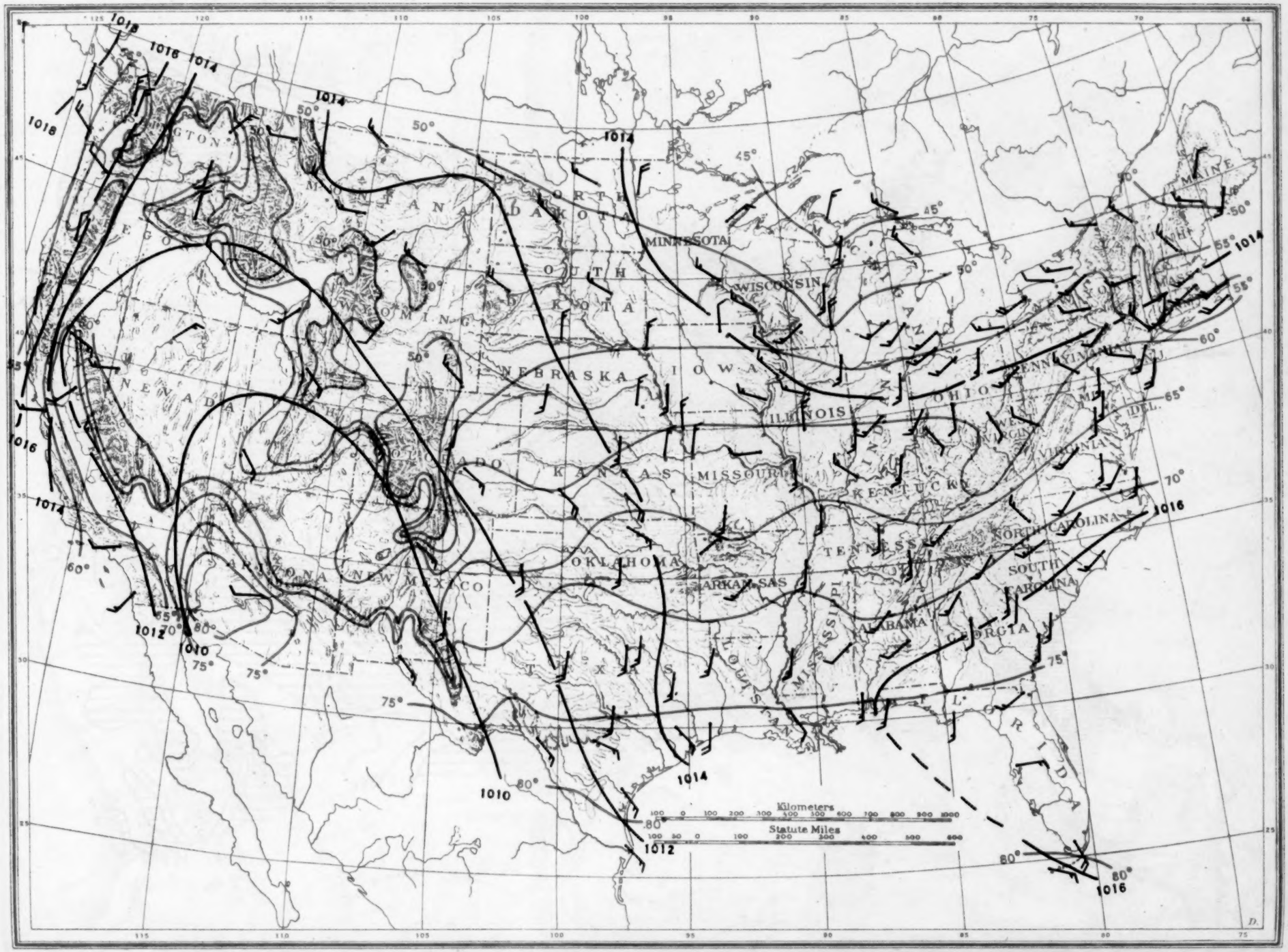
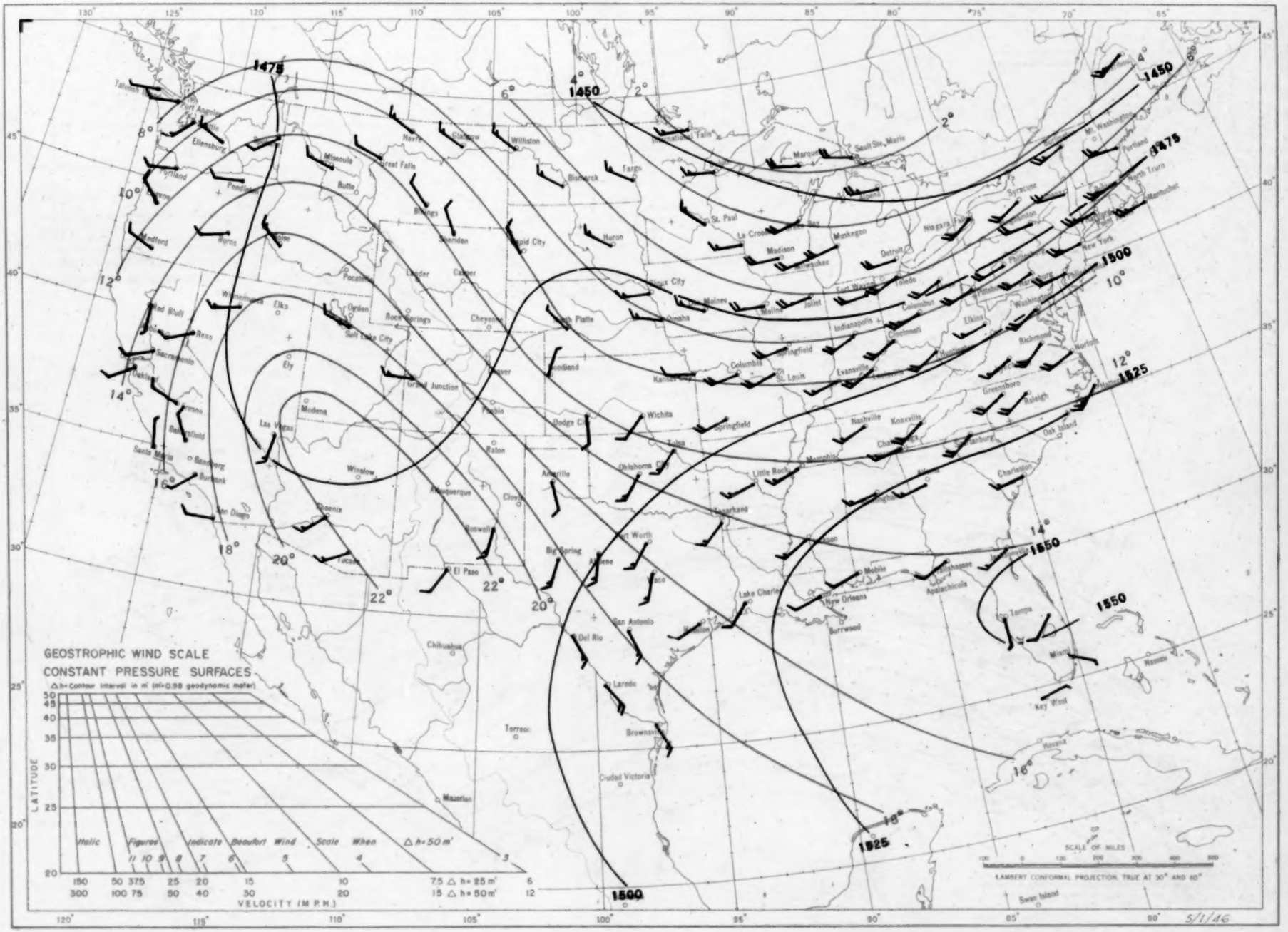


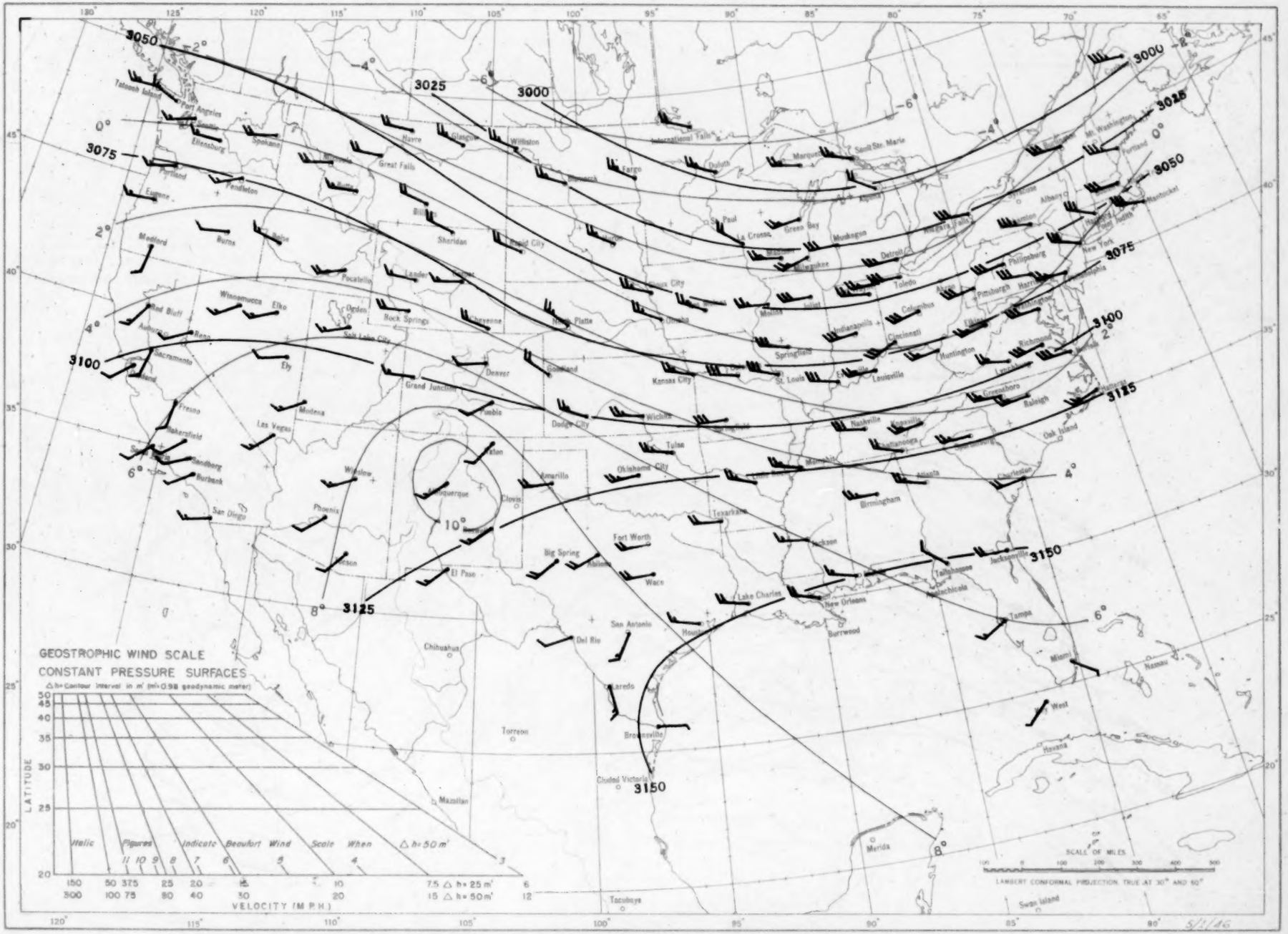
Chart VIII, May 1947. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meters and Isotherms in Degrees Centigrade for the 850-millibar Pressure Surface, and Resultant Winds at 1,500 Meters (m.s.l.)

Chart VIII, May 1947. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meters and Isotherms in Degrees Centigrade for the 850–millibar Pressure Surface, and Resultant Winds at 1,500 Meters (m.s.l.)


GEOSTROPHIC WIND SCALE
CONSTANT PRESSURE SURFACES
Δh= Contour interval in m' (m'=0.98 geodynamic meter)
LATITUDE
VELOCITY (M.P.H.)
Italic Figures Indicate Beaufort Wind Scale When Δh=50 m'
150 50 375 25 20 15 10 7.5 Δh=25 m' 6
300 100 75 50 40 30 20 15 Δh=50 m' 12
LAMBERT CONFORMAL PROJECTION, TRUE AT 30° AND 60°
SCALE OF MILES
5/1/46

Contour lines and isotherms based on radiosonde observations at 0300 G.C.T., and winds based on pilot balloon observations at 2200 G.C.T.

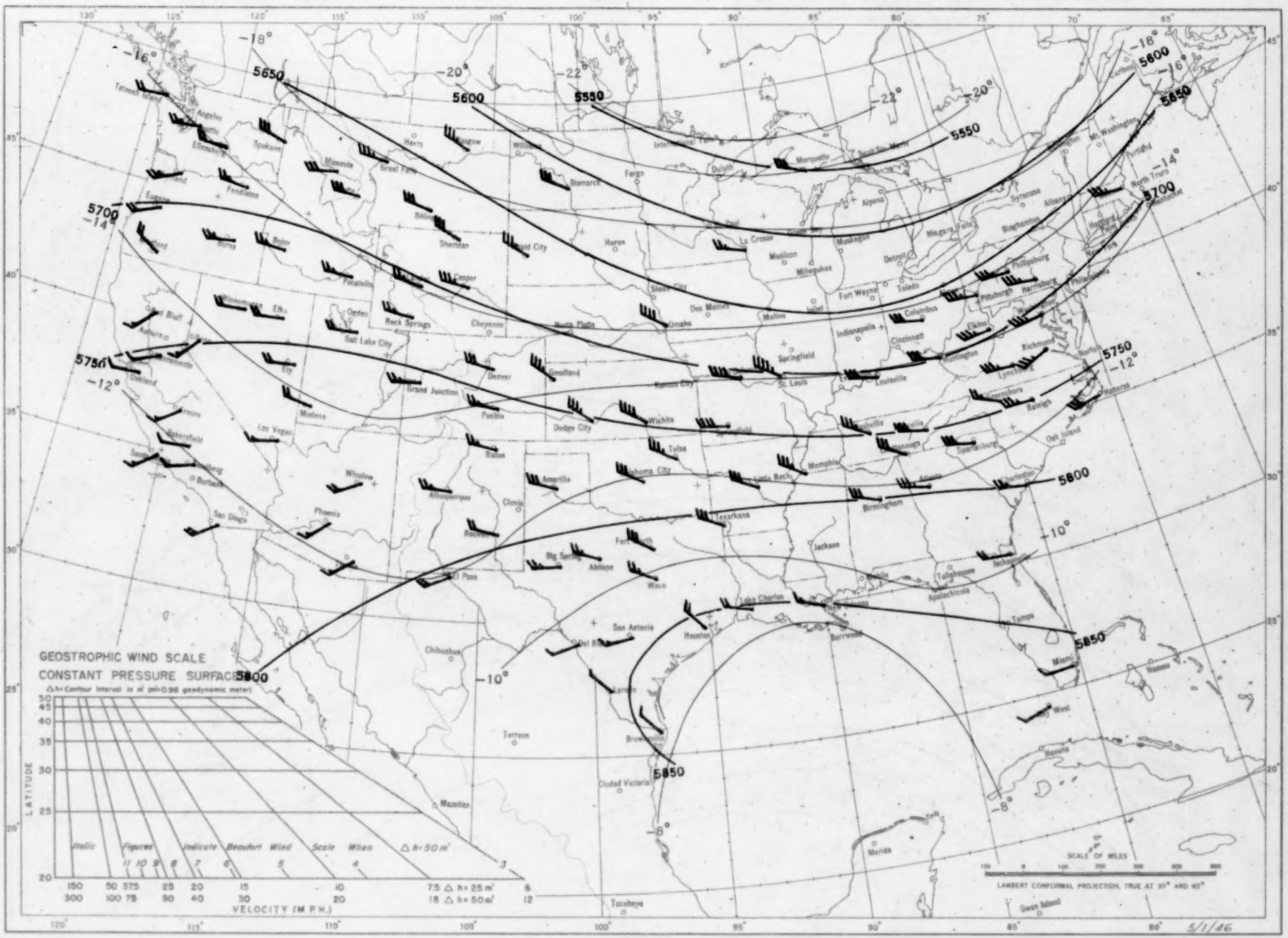
Chart IX, May 1947. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meters and Isotherms in Degrees Centigrade for the 700-millibar Pressure Surface, and Resultant Winds at 3,000 Meters (m.s.l.)



Contour lines and isotherms based on radiosonde observations at 0300 G.C.T., and winds based on pilot balloon observations at 2200 G.C.T.

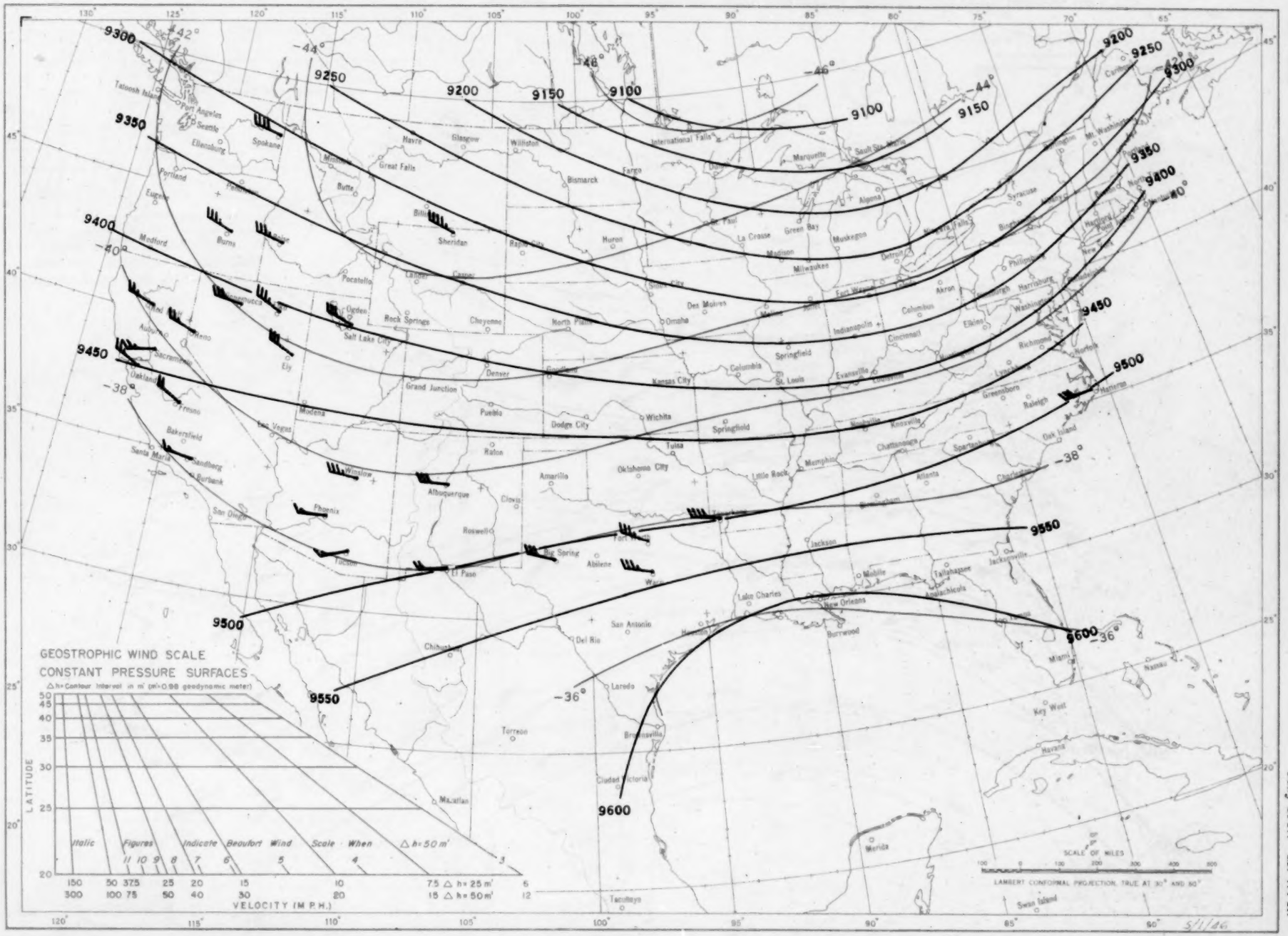
Chart X, May 1947. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meters and Isotherms in

Chart X, May 1947. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meters and Isotherms in Degrees Centigrade for the 500–millibar Pressure Surface, and Resultant Winds at 5,000 Meters (m.s.l.)



Contour lines and isotherms based on radiosonde observations at 0300 G.C.T., and winds based on pilot balloon observations at 2200 G.C.T.

Chart XI, May 1947. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meters and Isotherms in Degrees Centigrade for the 300-millibar Pressure Surface, and Resultant Winds at 10,000 Meters (m.s.l.)



Contour lines and isotherms based on radiosonde observations at 0300 G.C.T., and winds based on pilot balloon observations at 2200 G.C.T.